



MONTHLY WATER INVENTORY REPORT FOR OHIO

August 2005

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

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Water Inventory Unit

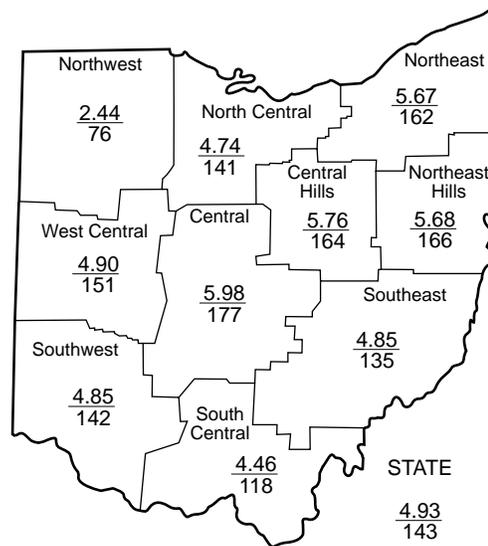
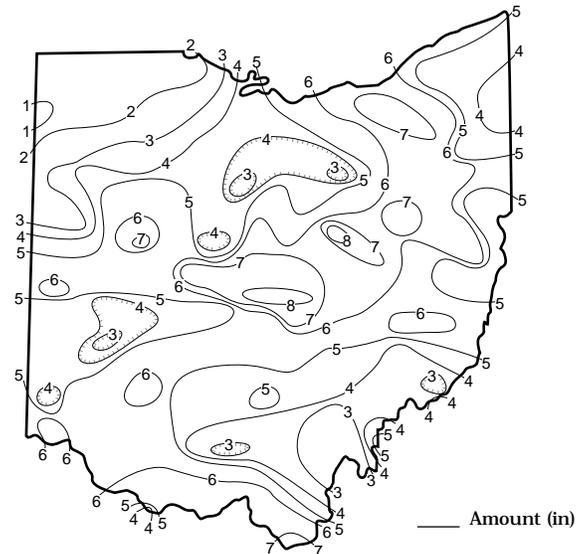
PRECIPITATION during August was above normal across most of the state, but below normal in northwestern Ohio and in a few areas of north-central and southern Ohio. The average for the state as a whole was 4.93 inches, 1.49 inches above normal. Regional averages ranged from 5.98 inches, 2.61 inches above normal, for the Central Region to 2.44 inches, 0.75 inch below normal, for the Northwest Region. For the state as a whole this was the 12th wettest August during the past 123 years. Regionally, this was the 6th wettest August for the Northeast Region, the 8th wettest for both the Central and Central Hills regions and the 11th wettest for the Northeast Hills Region. Greer (Knox County) reported the greatest amount of August precipitation, 8.55 inches. Newark (Licking County) and Westerville (Franklin County) also reported in excess of 8 inches for the month. Hicksville (Defiance County) reported the least amount, 0.91 inch.

Precipitation during August varied greatly across Ohio. Most of the precipitation fell during the last week of the month. The first 24 days were rather dry across much of the state. Widely scattered showers and thunderstorms occurred on a few days, but precipitation amounts were generally light, although a few exceptions were noted. Showers and thunderstorms brought 1-2 inches of rain to much of northern Ohio during the second week of August. Scattered areas of northern Ohio and a large area of southern Ohio received little or no rain at all during this period. Showers and isolated severe storms on August 20 brought less than 0.25 inch of rain across most of the state. However, some locations received around 1 inch and an area in northeastern Ohio received in excess of 3 inches. Isolated showers and thunderstorms during August 26-29 generally brought less than 0.25 inch to most areas of the state, but areas in northeastern, east-central and extreme southern Ohio received in excess of 1 inch during this period. The most widespread rain for the month fell on August 30 as the remnants from Hurricane Katrina moved through Ohio producing steady rain and occasional heavier downpours. Amounts of 2-4 inches were reported throughout most of the state except in extreme northwestern and extreme southeastern Ohio, where around 0.50 inch was reported. Minor flooding of low-lying areas and some urban flooding resulted from this rain. Due in part to the recent dry soil conditions, no major flooding occurred.

Precipitation for the 2005 calendar year is above normal across most of the state, but below normal in northwestern and south-central Ohio. The average for the state as a whole is 29.61 inches, 2.75 inches above normal. Regional averages range from 31.60 inches, 4.42 inches above normal, for the Central Hills Region to 23.42 inches, 0.51 inch below normal, for the Northwest Region.

Precipitation for the 2005 water year is above normal across nearly the entire state. The average for the state as a whole is 39.28 inches, 4.21 inches above normal. Regional averages range from 41.28 inches, 4.69 inches above normal, for the Southeast Region to 31.58 inches, 0.06 inch above normal, for the Northwest Region.

PRECIPITATION AUGUST



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	-0.75	-0.91	-4.40	-0.78	+3.97	-1.6
North Central	+1.39	+1.72	+0.68	+5.13	+14.51	0.0
Northeast	+2.18	+1.82	+1.57	+7.37	+17.06	+1.1
West Central	+1.66	-0.57	-1.88	+4.68	+12.13	+0.1
Central	+2.61	-0.47	-0.95	+6.45	+17.70	-0.4
Central Hills	+2.24	+1.06	-0.17	+6.32	+19.54	+1.2
Northeast Hills	+2.25	-0.57	-0.63	+8.84	+24.99	0.0
Southwest	+1.44	-1.22	-3.19	+0.55	+5.34	-0.4
South Central	+0.68	-1.85	-2.56	+5.01	+11.09	-2.2
Southeast	+1.27	-2.09	-1.26	+11.92	+23.99	-1.6
State	+1.49	-0.32	-1.29	+5.54	+15.02	

*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	212	241	85	113	142
Great Miami River at Hamilton	3,630	848	73	56	79	126
Huron River at Milan	371	39	43	27	94	179
Killbuck Creek at Killbuck	464	151	107	60	89	127
Little Beaver Creek near East Liverpool	496	102	75	45	86	155
Maumee River at Waterville	6,330	561	58	31	51	112
Muskingum River at McConnellsville	7,422	1,926	66	78	123	140
Scioto River near Prospect	567	36	80	28	67	139
Scioto River at Higby	5,131	1,100	83	45	97	154
Stillwater River at Pleasant Hill	503	55	78	41	71	133

STREAMFLOW during August was below normal across most of the state, but above normal in some northeastern Ohio basins. Flows were low enough to be considered deficient in basins in north central and southeastern Ohio. August flows declined seasonally from the July flows statewide.

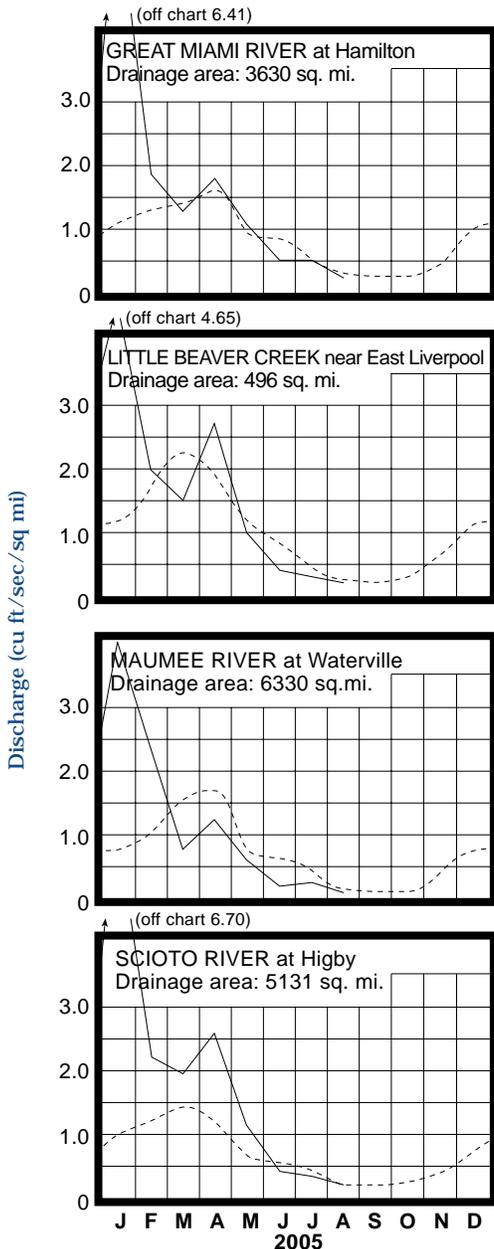
Flows at the beginning of August were below normal across most of the state, but above normal in some northern Ohio basins. Greatest flows for the month occurred at the beginning of August in basins across northwestern Ohio. Except for temporary increases reported following local precipitation, flows steadily decreased during August until late in the month. Flows increased rapidly during August 30-31 in response to precipitation from the remnants from Hurricane

Katrina, with the greatest flows for the month occurring on August 31 nearly statewide. Isolated areas of minor lowland and street flooding were observed. Lowest flows for the month across most of the state were observed just prior to the onset of this weather system. Flows at the end of the month were above normal across all but northwestern Ohio.

RESERVOIR STORAGE during August decreased in both the Mahoning and Scioto river basins. Storage is above normal in both basins.

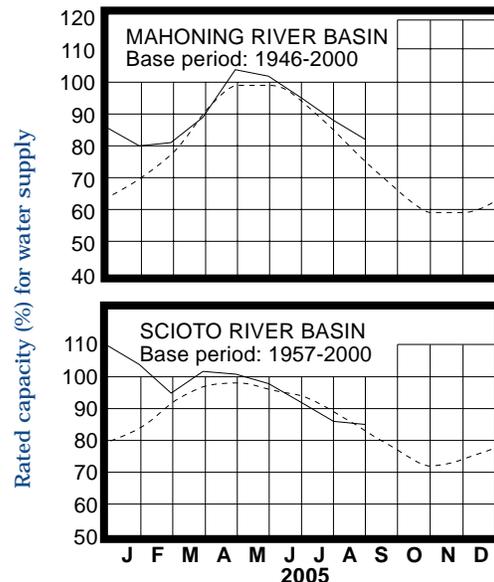
Reservoir storage at the end of August in the Mahoning basin index reservoirs was 82 percent of rated capacity for water supply, compared with 88 percent for last month and 95 percent for August 2004. Month-end storage in the Scioto basin index reservoirs was 85 percent of rated capacity for water supply, compared with 86 percent for last month and 97 percent for August 2004. Surface water supplies continue to be adequate statewide.

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 August declined seasonally statewide. Net declines from July's levels ranged from near normal to three times those usually observed. Ground water levels declined steadily throughout most of the month, then improved slightly in many aquifers near the end of the month as a result of widespread rain that fell during the last few days of August.

Ground water supplies continue to remain adequate throughout the state. Ground water levels remain below normal across most of the state, ranging up to 1.25 feet below normal. Current levels are lower than they were a year ago across most of the state, ranging from slightly higher to more than 2.5 feet lower than the August 2004 levels. However, current levels are higher than the levels observed during the recent past droughty years of 1999 and 2000. The widespread rain during the last week of August greatly improved the soil moisture conditions across most of the state, although little if any recharge to ground water supplies can usually be expected during the next couple of months. The Ohio Agricultural Statistics Service reported that near the end of August, soil moisture was rated as being short or very short in 22 percent of the state, adequate in 68 percent of the state and surplus in 10 percent of the state. With near-normal precipitation and other climatic conditions, ground water supplies should continue to be adequate throughout the state during the coming months.

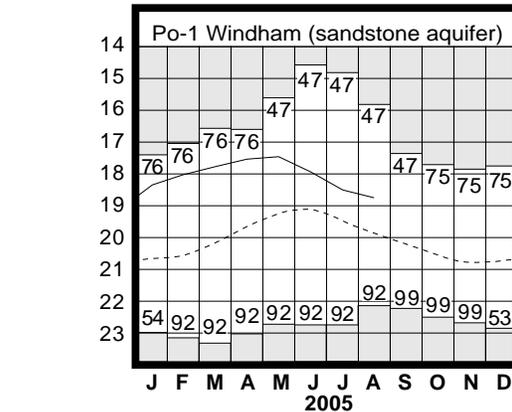
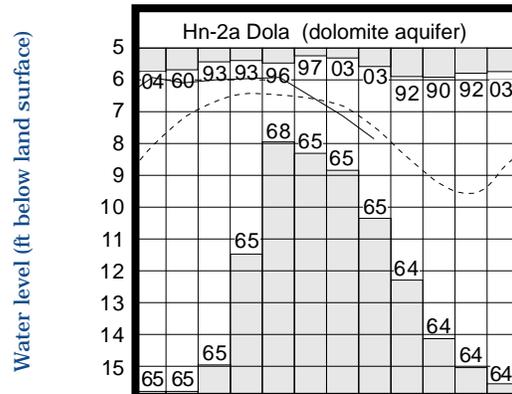
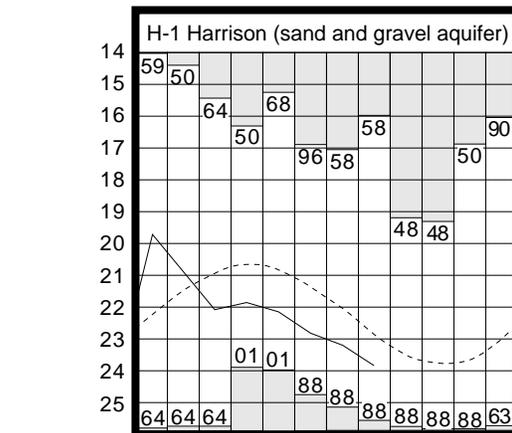
LAKE ERIE level declined during August. The mean level was 571.36 feet (IGLD-1985), 0.26 foot lower than last month's mean level and 0.36 foot below normal. This month's mean level is 0.46 foot lower than the August 2004 level and 2.16 foot above Low Water Datum.

The U.S. Army Corps of Engineers (USACE) reports that precipitation in the Lake Erie basin during August averaged 3.44 inches, 0.25 inch above normal. For the entire Great Lakes basin, August precipitation averaged 2.94 inches, 0.21 inch below normal. For calendar year 2005 through August, the Lake Erie basin has averaged 22.29 inches, 1.41 inches below normal, while the entire Great Lakes basin has averaged 17.96 inches, 3.14 inches 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 below normal for the foreseeable future. Deviations from the anticipated weather patterns could result in the level of Lake Erie ranging from about 7 inches above to as much as 16 inches below the normal seasonal average.

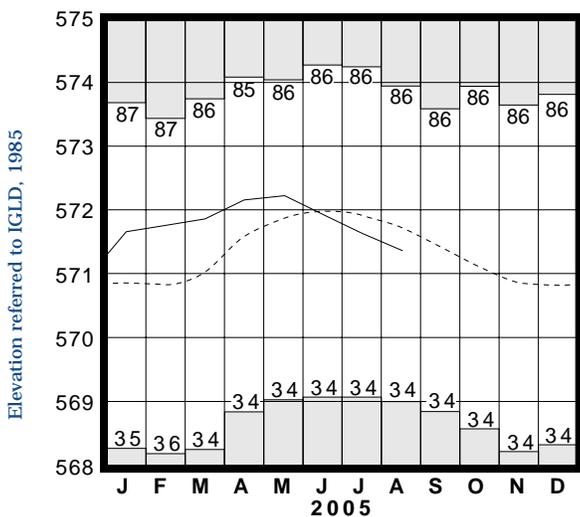
Index Well	Location	Aquifer	Mean This Month	Departure From Normal	Change in feet from:	
					Last Month	Year Ago
F-1	W. Rushville, Fairfield Co.	Sandstone	16.31	-0.27	-1.30	-2.65
Fa-1	Jasper Mill, Fayette Co.	Limestone	9.95	-1.18	-1.03	-1.17
Fr-10	Columbus, Franklin Co.	Gravel	44.33	-0.53	-0.77	+0.51
H-1	Harrison, Hamilton Co.	Gravel	23.83	-0.96	-0.63	-0.33
Hn-2a	Dola, Hardin Co.	Dolomite	7.85	-0.36	-0.72	-1.15
Po-1	Windham, Portage Co.	Sandstone	18.75	+1.12	-0.24	-0.33
Tu-1	Strasburg, Tuscarawas Co.	Gravel	14.76	-1.35	-0.46	-2.60

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



Base period: 1918-2000

□ Record high and low, year of occurrence

Normal - - - - Current ———

SUMMARY

Precipitation during August was above normal across most of the state, but below normal in northwestern Ohio. Streamflow was below normal across most of the state. Reservoir storage decreased in both the Mahoning and Scioto basin index reservoirs, but was above normal in both basins. Ground water levels declined seasonally throughout Ohio. Lake Erie level declined 0.26 foot and was 0.36 foot below the long-term August average.

NOTES AND COMMENTS

New Certified Floodplain Managers

Three staff members of the Ohio Department of Natural Resources (ODNR), Division of Water's Floodplain Management Program recently passed the Certified Floodplain Manager exam. Those staff members are Tim Beck, Kimberly Bitters and Jonathan Sorg. The Certified Floodplain Manager exam is a national benchmark for knowledge and credibility in the field of floodplain management. Currently all technical staff members of the Floodplain Management Program are Certified Floodplain Managers. The Division of Water wishes to congratulate Tim, Kimberly and Jonathan, and the entire Floodplain Management Program staff.

Additional Pollution Potential Maps Available On-Line

The ODNR, Division of Water recently announced the on-line availability of several additional county pollution potential maps. Those new counties are: Allen, Auglaize, Belmont, Champaign, Clark, Clinton, Delaware, Hancock, Huron, Jefferson, Licking, Lorain, Madison, Medina, Mercer, Montgomery, Pickaway, Seneca, Stark and Wood. This brings to 47 the number of counties in Ohio for which pollution potential maps are available on-line. Pollution potential maps are available for viewing and/or printing from the Division of Water website at: <http://www.dnr.state.oh.us/water/gwppmaps>. Maps can also be purchased for \$10.00 each plus postage and handling (see chart below) from: ODNR Division of Water, Water Resources Section, 2045 Morse Road, Building E-1, Columbus, Ohio, 43229-6693, phone (614) 265-6740. Payment may be made by check or credit card. Please make checks payable to ODNR Division of Water. Additional counties will be added to the website in the future.

Ground water pollution potential maps are designed to determine an area's relative vulnerability to ground water pollution. The maps can be used as a planning and management tool for administrators, commissioners, zoning boards and others to aid in making educated decisions about local development and siting of land use operations or activities that can affect ground water quality. This information can be used to help direct resources and land use activities to appropriate areas, or to assist in protection, monitoring, and clean-up efforts. An important application of the pollution potential maps for many areas will be assisting in county land use planning and resource expenditures related to solid waste disposal. A county may use the map to help identify areas that are suitable for disposal activities. Once these areas have been identified, a county can collect more site-specific information and combine this with other local factors to determine site suitability. For further information, please contact Jim Raab at: jim.raab@dnr.state.oh.us or phone (614) 265-6747.

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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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