MONTHLY WATER INVENTORY REPORT FOR OHIO

July 2007

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

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PRECIPITATION during July was below normal across much of the state, but generally above normal in much of north-central, east-central and southeastern Ohio. The state average was 3.72 inches, 0.36 inch below normal. Regional averages ranged from 5.07 inches, 0.82 inch above normal, for the Central Hills Region to 2.80 inches, 0.87 inch below normal, for the Northwest Region. Greer (Knox County) reported the greatest amount of July precipitation, 8.94 inches; Congress (Wayne County) reported 7.85 inches for the month. Several locations reported less than 2 inches of precipitation for July, with Van Wert (Van Wert County) reporting the least amount, 1.14 inches.

Precipitation during July fell in a typical summer pattern of scattered showers and thunderstorms, some with locally heavy downpours. Showers and thunderstorms during July 4-6 brought 0.25-0.50 inch of rain across much of the state with some areas receiving between 1 and 2 inches. Scattered showers and thunderstorms during July 10-11 brought another 0.25-0.50 inch across a large portion of the state with 1-2 inches reported at a few locations, mainly in southern Ohio. The second half of the month was wetter than the first half across most of the state. Widely scattered showers and thunderstorms occurred on several days during July 17-28. Most areas of the state received between 1 and 3 inches of rain during this time with some locations receiving more than 4 inches. The most notable storm periods were July 17-19 and July 25-27. During both periods, the greatest amount of rain fell in an area from northwestern to east-central and southeastern Ohio. Some storms were severe with damaging winds and minor localized flooding.

Precipitation for the 2007 water year is above normal across most of the state, but below normal in the South Central and Southeast regions. The average for the state as a whole is 33.76 inches, 2.13 inches above normal. Regional averages range from 36.50 inches, 5.57 inches above normal, for the West Central Region to 30.29 inches, 1.96 inches above normal, for the Northwest Region.

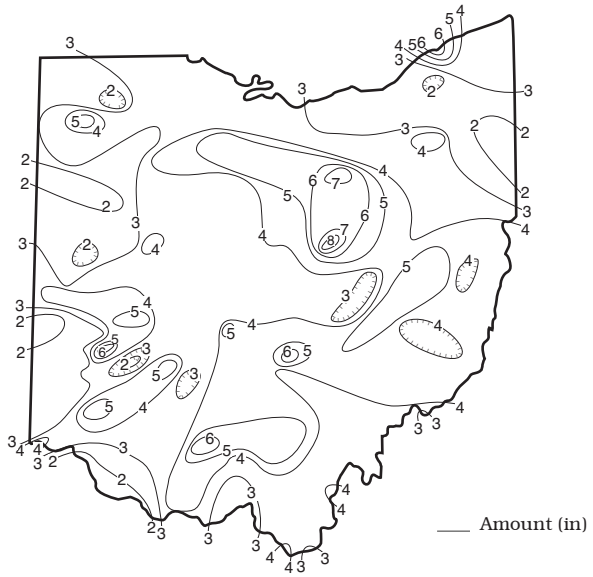
Precipitation for the 2007 calendar year is generally below normal in the southern, northwestern and northeastern areas of the state and above normal in the central and north-central areas. The average for the state as a whole is 22.63 inches, 0.79 inch below normal. Regional averages range from 25.12 inches, 2.05 inches above normal, for the West Central Region to 19.29 inches, 1.45 inches below normal, for the Northwest Region.

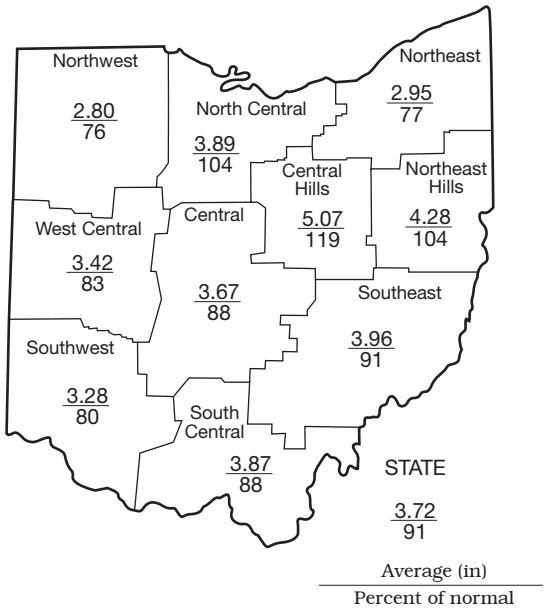
PRECIPITATION

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	-0.87	-4.25	-4.40	+2.03	+6.34	-2.3
North Central	+0.15	-3.20	-2.50	+4.06	+10.98	-2.2
Northeast	-0.89	-3.49	-3.58	+3.06	+10.35	-2.6
West Central	-0.69	-4.08	-0.61	+6.97	+14.37	-2.6
Central	-0.48	-4.05	-1.72	+6.72	+10.97	-2.6
Central Hills	+0.82	-1.83	-1.22	+2.93	+8.00	-0.9
Northeast Hills	+0.15	-1.75	-0.97	+2.89	+8.41	-2.0
Southwest	-0.82	-4.83	-4.30	+2.60	+3.92	-3.0
South Central	-0.54	-4.30	-5.70	+1.81	-2.44	-3.4
Southeast	-0.39	-4.22	-3.53	+2.00	+2.14	-2.8
State	-0.36	-3.60	-2.85	+3.50	+7.30	

*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 JULY





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	66	5	18	153	150
Great Miami River at Hamilton	3,630	1,118	60	48	114	152
Huron River at Milan	371	101	94	80	111	152
Killbuck Creek at Killbuck	464	178	91	59	85	110
Little Beaver Creek near East Liverpool	496	88	38	37	94	114
Maumee River at Waterville	6,330	494	18	41	86	138
Muskingum River at McConnelsville	7,422	2,406	49	80	129	107
Scioto River near Prospect	567	34	21	24	110	162
Scioto River at Higby	5,131	912	33	30	92	134
Stillwater River at Pleasant Hill	503	98	60	30	122	148

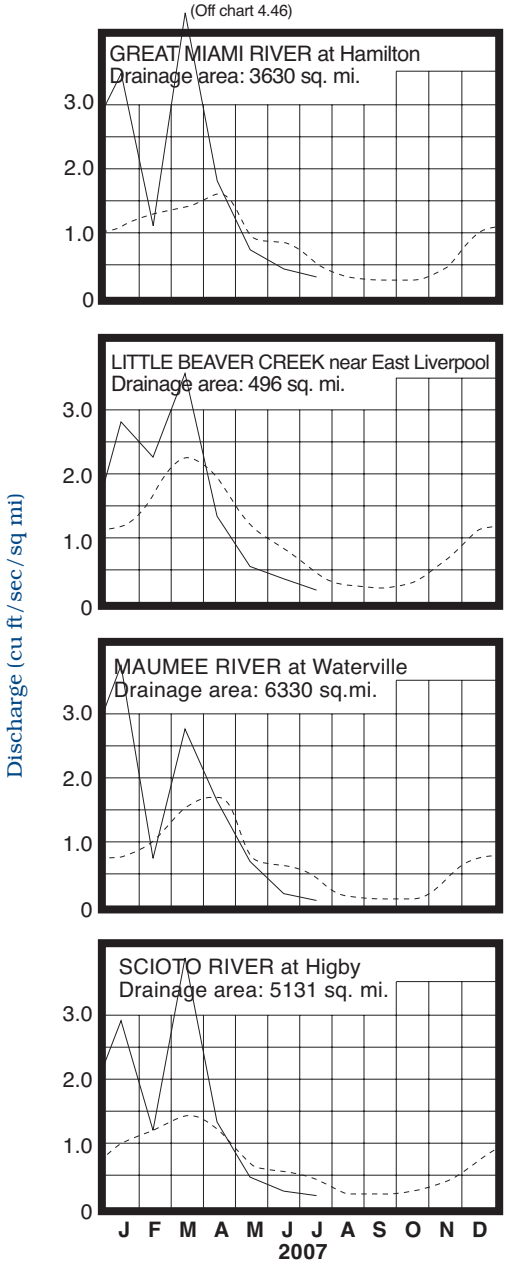
STREAMFLOW during July was below normal statewide. Flows were low enough to be considered deficient across much of Ohio. Generally, flows during July were seasonally lower than the flows recorded during June.

Streamflow was below normal throughout the state at the beginning of July. Rainfall near the end of the first week and during the second week increased streamflow statewide. Greatest flows for the month occurred during this period in west-central and southwestern Ohio. Flows decreased during the next week or so, and then increased again around July 20. Greatest flows for the month occurred around this time in much of northern Ohio. Greatest flows in central, eastern and southeastern Ohio occurred following showers and thunderstorms during July 25-28, with most of the peak flows occurring on July 28 or 29. Lowest flows for the month occurred during July 16-17 throughout most of the state, except in west-central and southwestern Ohio where they occurred during July 25-26. Flows were declining at the end of the month and were below normal nearly statewide.

RESERVOIR STORAGE during July decreased in both the Mahoning and Scioto river basins. Storage remained below normal in both basins.

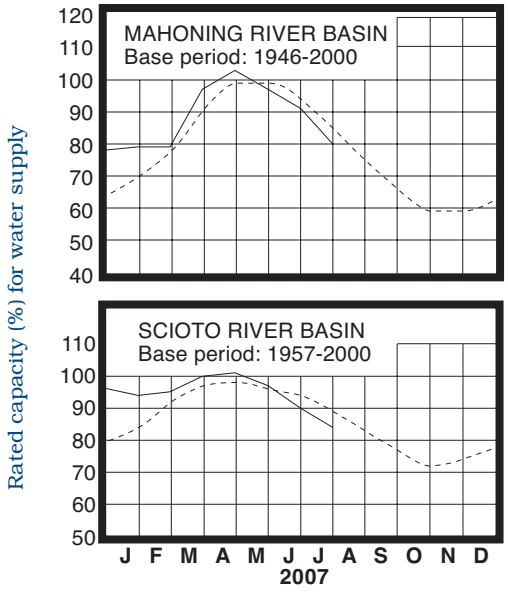
Reservoir storage at the end of July in the Mahoning basin index reservoirs was 80 percent of rated capacity for water supply compared with 91 percent for last month and 102 percent for July 2006. Month-end storage in the Scioto basin index reservoirs was 84 percent of rated capacity for water supply compared with 90 percent for last month and 98 percent for July 2006. Surface water supplies continue to be adequate across most of the state.

MEAN STREAM DISCHARGE



Base period for all streams: 1971-2000

RESERVOIR STORAGE FOR WATER SUPPLY



Normal – – – – Current ———

GROUND WATER levels during July declined statewide. In most aquifers, the declines were greater than usually observed for the month. Levels in most aquifers declined steadily throughout the month with just a few exceptions where levels temporarily rose or stabilized following local precipitation.

Ground water levels are below normal throughout most of the state, ranging up to nearly 2 feet below the long-term July average. Also, current levels are lower than last year's levels across most of the state, ranging from about 1 foot to more than 2.5 feet lower than the July 2006 levels. The only exception is in a few consolidated aquifers in eastern Ohio where levels continue to be above normal and are about 1 foot higher than last year's levels. In spite of the below normal precipitation during the past few months and decreasing ground water storage, supplies remain adequate across the state. However, with ground water levels below normal across most of the state and the start of the recharge season several months away, ground water managers should monitor their respective situations closely. The Ohio Agricultural Statistics Service reports that near the end of July, soil moisture was rated as being short or very short in 76 percent of the state, adequate in 23 percent of the state, and surplus in 1 percent of the state.

LAKE ERIE level declined during July. The mean level was 571.39 feet (IGLD-1985), 0.40 foot lower than last month's mean level and 0.53 foot below normal. This month's mean level is 0.43 foot lower than the July 2006 level and 2.19 feet above Low Water Datum.

The U.S. Army Corps of Engineers (USACE) reports that precipitation in the Lake Erie basin during July averaged 2.53 inches, 0.79 inch below normal. For the entire Great Lakes basin, July precipitation averaged 2.86 inches, 0.28 inch below normal. For calendar year 2007 through July, the Lake Erie basin has averaged 17.73 inches, 2.78 inches below normal, while the entire Great Lakes basin has averaged 15.78 inches, 2.14 inches below normal.

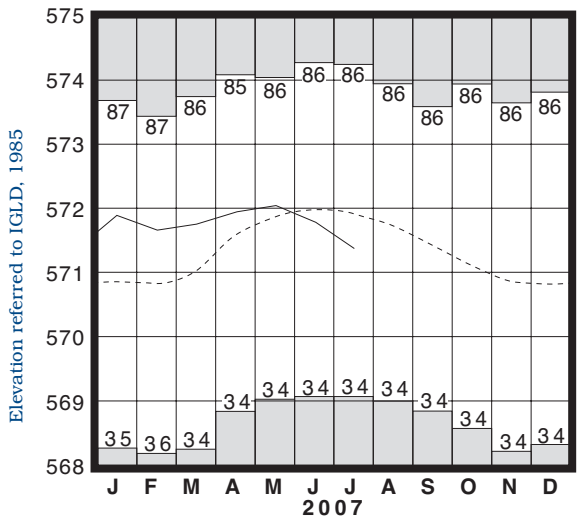
In addition, the USACE reports that based on the current condition of the Great Lakes basin and anticipated weather patterns, the level of Lake Erie should remain below normal for the foreseeable future. Deviations from the anticipated weather patterns could result in the level of Lake Erie ranging from near-normal to as much as 20 inches below the normal seasonal average.

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	15.45	-0.03	-1.32	-2.60
Fa-1	Jasper Mill, Fayette Co.	Limestone	9.26	-1.44	-0.32	-0.78
Fr-10	Columbus, Franklin Co.	Gravel	45.06	-1.78	-0.94	-0.64
H-1	Harrison, Hamilton Co.	Gravel	23.96	-1.91	-0.51	-0.92
Hn-2a	Dola, Hardin Co.	Dolomite	7.51	-0.68	-0.73	-1.37
Po-1	Windham, Portage Co.	Sandstone	17.39	+2.10	-1.12	+1.16
Tu-1	Strasburg, Tuscarawas Co.	Gravel	14.38	-1.64	-0.86	-2.13

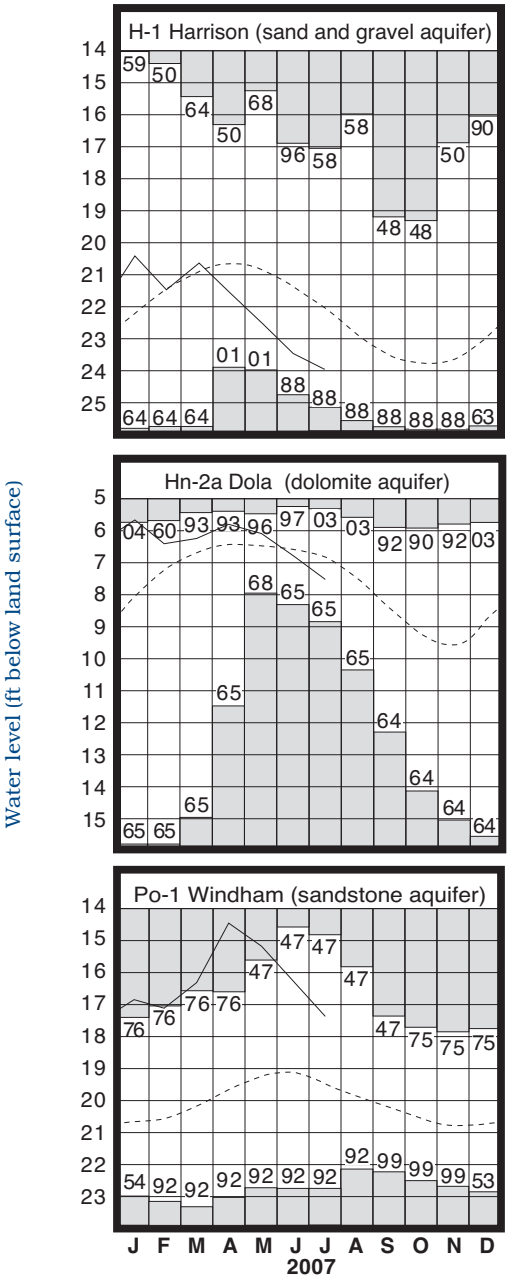
LAKE ERIE LEVELS



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 ———

SUMMARY

Precipitation during July was below normal across much of the state, but generally above normal in much of north-central, east-central and southeastern Ohio. Streamflow was below normal statewide and was low enough to be considered deficient throughout most of Ohio. Reservoir storage decreased and was below normal in both the Mahoning and Scioto river basins. Ground water levels declined and were below normal across most of the state. Lake Erie level declined 0.40 foot and was 0.53 foot below the long-term July average.

NOTES AND COMMENTS

New Publication

The Water Resources Division of the U.S. Geological Survey (USGS) announces the availability of the following new report:

Water Resources Data For The United States, Water Year 2006

This report contains data from cooperative long-term surface water and ground water networks as well as data collected as part of special short-term projects. Starting with the 2006 water year, paper reports will no longer be produced. The USGS annual Water Data Report is changing from the state-based printed report to a national web-based product. Each individual station will have a "Site Data Sheet" that can be viewed and/or downloaded. Site Data Sheets contain all surface-water, ground-water and/or water-quality data that were collected at a particular site in a given water year. The general format of these Site Data Sheet pages is similar to the format that was contained in the printed reports. All Site Data Sheets for water year 2006 in Ohio have been completed and are available at: http://pubs.water.usgs.gov/wdr2006. Connecting to this web site will take you directly to the Site Data Sheet search page. Site Data Sheets are indexed by USGS station number and physical location, which includes state, county and hydrologic unit. If you have any questions or comments, please contact James Mangus at (614) 430-7727 or e-mail: jpmangus@usgs.gov. Water Resources Data-Ohio reports for water year 2002-2005 can also be accessed online at: http://pubs.usgs.gov/wdr/. Paper copies of this report for water year 2005 and earlier can be obtained by contacting the USGS Ohio Water Science Center at (614) 430-7700.

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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