



MONTHLY WATER INVENTORY REPORT FOR OHIO

May 2012

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Compiled By Scott C. Kirk

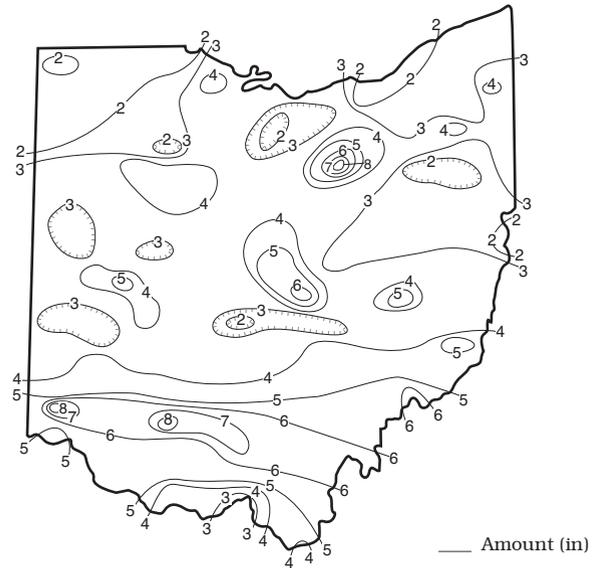
Hydrologist
Water Inventory Unit

PRECIPITATION during May was below normal across much of Ohio, but above normal in the southern third of the state, and in a few other scattered areas. The average for the state was 3.56 inches, 0.53 inch below normal. Regional averages ranged from 5.32 inches, 0.88 inch above normal, for the South Central Region to 2.19 inches, 1.52 inches below normal, for the Northwest Region. Congress (Wayne County) reported the greatest amount of May precipitation, 8.90 inches. Other locations reporting more than eight inches of precipitation in May were: Fairfield (Butler County), 8.38 inches and Hillsboro (Highland County), 8.25 inches. Paulding (Paulding County) reported the least amount, 1.10 inches.

Most of the precipitation during May fell within the first nine days of the month. Storms during May 1-4 were widespread and generally produced the greatest amount of rain during the month for many areas with amounts of 1-2 inches common; areas in the southern half of the state recorded 3 to more than 5 inches of rain. Repeated storms on May 4 fell across portions of southeastern Ohio with up to 4 inches of rain falling in places. The heavy rain caused small stream flooding across much of the area. In Athens County, one person drowned after being swept away by fast moving waters. Additional storms occurred during May 7-8 with the greatest amounts of rain falling from west-central through northeastern Ohio and in southeastern areas of the state. During May 13-14, storms crossed through the southeastern third of Ohio with some areas reporting more than 1 inch of rain. However, no rain fell in the northwestern half of the state during this period. There were a few widely scattered showers and thunderstorms around the state on May 21, 28 and 29, but many areas in Ohio received little or no rain during the second half of the month. Heavy downpours on May 21 produced as much as 3 inches of rain in areas of southwestern Ohio where several roads were flooded. Temperatures during May were much above normal throughout the state. The Memorial Day weekend was hot with temperatures in the low to mid-90's across much of the state on all three days. A few showers developed in western Ohio on the last day of the month, but most areas of the state remained rather dry at month's end.

Precipitation during the 2012 water year is above normal statewide. The state average is 27.94 inches, 3.69 inches above normal. Regional averages range from 32.01 inches, 4.90 inches above normal, for the Southwest Region to 25.09 inches, 3.71 inches above normal, for the Northwest Region.

PRECIPITATION MAY



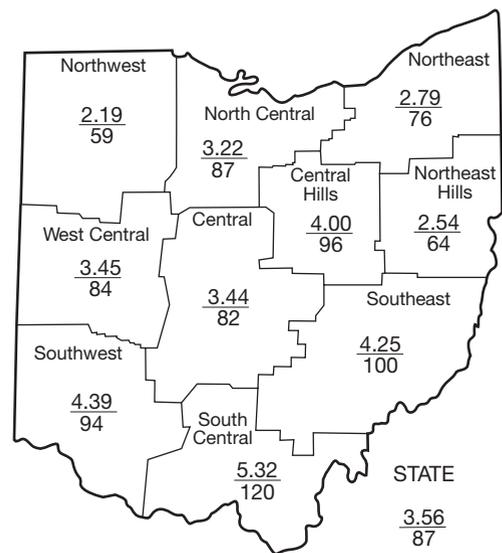
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PRECIPITATION

Region	DEPARTURE FROM NORMAL (IN.) Base period 1961-2010					Palmer Drought Severity Index*
	This Month	Past				
		3 Mos.	6 Mos.	12 Mos.	24 Mos.	
Northwest	-1.52	-3.11	-1.48	+5.59	+11.51	-2.6
North Central	-0.50	-1.31	+1.03	+9.94	+21.16	+0.1
Northeast	-0.89	-3.03	-0.15	+8.39	+20.25	-1.7
West Central	-0.66	-3.75	-1.54	+4.24	+13.32	-2.3
Central	-0.75	-1.41	+1.31	+7.63	+15.60	-1.4
Central Hills	-0.15	-2.00	+0.69	+6.82	+14.28	-2.3
Northeast Hills	-1.43	-3.60	-2.53	+4.73	+12.34	-2.9
Southwest	-0.26	-2.62	+0.62	+6.40	+15.05	+0.2
South Central	+0.88	-0.73	-1.99	+4.94	+17.34	-1.0
Southeast	+0.02	-1.26	-0.97	+6.58	+13.45	-1.0
State	-0.53	-2.29	-0.52	+6.50	+15.42	

*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	408	66	53	91	118
Great Miami River at Hamilton	3,630	4,145	99	59	132	142
Huron River at Milan	371	113	31	56	108	144
Killbuck Creek at Killbuck	464	321	68	62	120	124
Little Beaver Creek near East Liverpool	496	206	38	55	90	84
Maumee River at Waterville	6,330	2,021	34	48	113	130
Muskingum River at McConnelsville	7,422	6,466	77	65	108	106
Scioto River near Prospect	567	937	207	75	140	189
Scioto River at Higby	5,131	6,700	129	67	125	139
Stillwater River at Pleasant Hill	503	344	67	41	101	106

STREAMFLOW during May was below normal throughout most of Ohio. The exception was in the central and south-central areas of the state where flows were above normal. Flows in the upper Scioto River basin were high enough to be considered excessive. Conversely, flows across areas of northern Ohio were low enough to be considered deficient. Generally, flows during May were greater than the flows recorded during April.

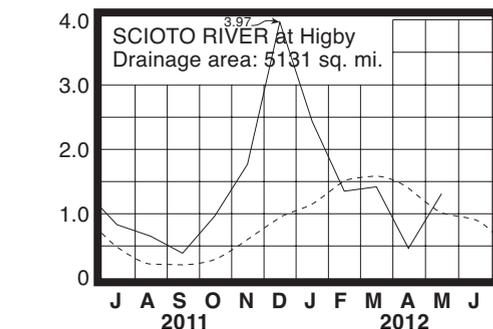
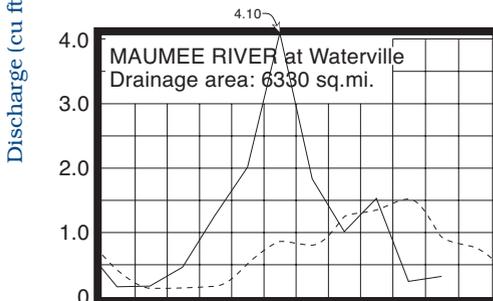
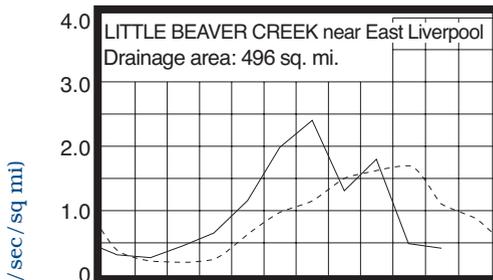
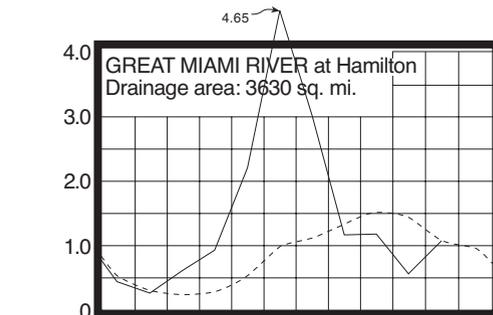
Flows at the beginning of the month were below normal statewide. Flows increased during the first week of May as a result of widespread precipitation. Small stream flooding was reported in areas of southeastern Ohio as a result of excessive rainfall. Greatest flows for the month were recorded during the first 10 days of May statewide. After these peaks,

flows declined steadily through the end of the month with slight rises noted following local precipitation. Lowest flows for May were recorded during the last week of the month. Flows at the end of May were below normal throughout most of the state.

RESERVOIR STORAGE for water supply during May declined slightly in the Mahoning River basin and increased in the Scioto River basin. Storage continues to be below normal in the Mahoning basin reservoirs, and is at the seasonal normal in the Scioto basin reservoirs.

Reservoir storage at the end of May in the Mahoning basin index reservoirs was 83 percent of rated capacity for water supply compared with 84 percent for last month and 103 percent for May 2011. Month-end storage in the Scioto basin index reservoirs was 97 percent of rated capacity for water supply compared with 93 percent for last month and 101 percent for May 2011. Surface water supplies remain adequate in spite of the below normal precipitation and reduced streamflow of the past two months across much of the state.

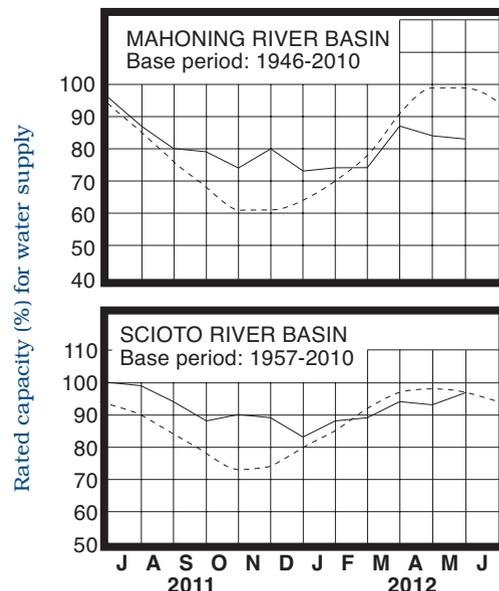
MEAN STREAM DISCHARGE



Base period for all streams: 1981-2010

Normal - - - - Current ———

RESERVOIR STORAGE FOR WATER SUPPLY



GROUND-WATER LEVELS

Based on daily lowest level in feet below land-surface datum

GROUND WATER levels during May declined in most aquifers across the state. Net declines from April's levels were greater than usually observed in most aquifers. Ground water levels rose during the first week in many shallower aquifers in response to precipitation, and then declined throughout the remainder of the month. Levels in deeper aquifers were rather stable or declined the entire month.

The effect of the below normal precipitation during the past four months is evident in ground water storage. At the end of January, levels were above normal statewide. By the end of May, ground water levels had fallen to below normal across most of the state. When compared to last year's levels, the dry conditions are also evident in that the current levels are lower than they were in nearly all aquifers, and in some cases are more than 3 feet lower than the May 2011 levels. In spite of this trend, ground water supplies remain adequate throughout the state. With a return to near-normal precipitation and other climatic conditions during the next few months, ground water supplies should continue to be adequate. The Ohio Agricultural Statistics Service reports that near the end of May, soil moisture was rated as being short or very short in 45 percent of the state, adequate in 52 percent of the state, and surplus in 3 percent of the state.

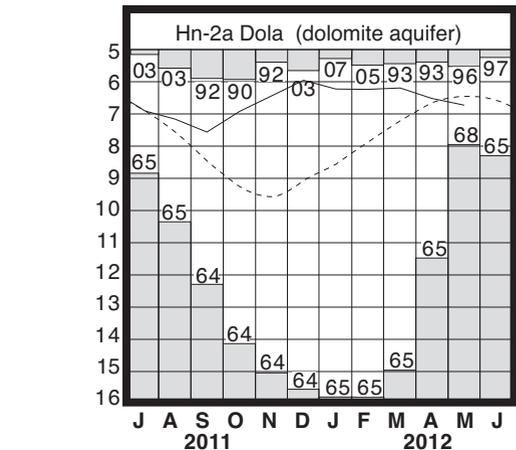
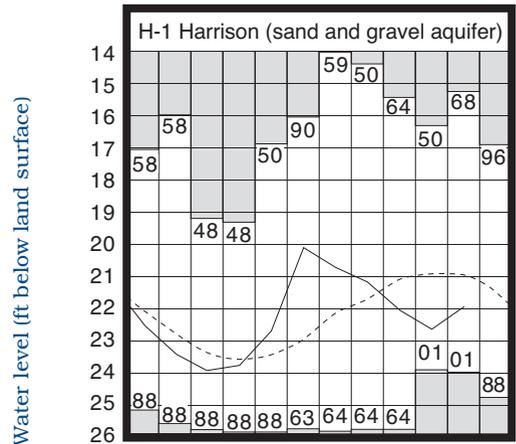
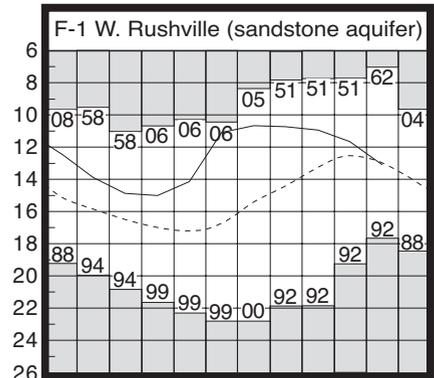
LAKE ERIE level declined during May. The mean level was 571.75 feet (IGLD-1985), 0.13 foot lower than last month's mean level and 0.10 foot below normal. This month's mean level is 0.63 foot lower than the May 2011 level and 2.55 feet above Low Water Datum.

The US Army Corps of Engineers (USACE) reports that precipitation in the Lake Erie basin during May averaged 1.57 inches, 1.78 inches below normal. For the entire Great Lakes basin, May precipitation averaged 2.70 inches, 0.88 inch below normal. For calendar year 2012 through May, the Lake Erie basin has averaged 11.23 inches, 2.62 inches below normal, while the entire Great Lakes basin has averaged 10.83 inches, 0.88 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 below normal for the foreseeable future. Deviations from the anticipated weather patterns could result in the level of Lake Erie ranging from about 3 inches above to as much as 14 inches below the normal seasonal average.

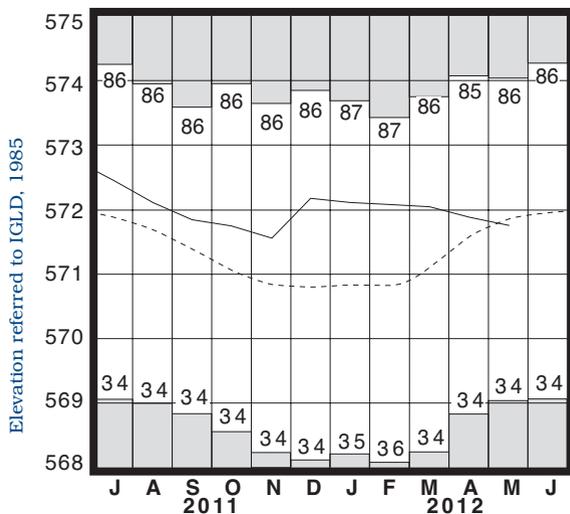
Index Well	Location	Aquifer	Mean This Month	Departure From Normal	Change in feet from:	
					Last Month	Year Ago
F-1	W. Rushville, Fairfield Co.	Sandstone	13.08	-0.14	-1.45	-3.33
Fa-1	Jasper Mill, Fayette Co.	Limestone	8.43	-1.23	-0.22	-0.72
Fr-10	Columbus, Franklin Co.	Gravel	41.94	+0.62	-0.44	+0.40
H-1	Harrison, Hamilton Co.	Gravel	21.93	-0.98	+0.69	-3.38
Hn-2a	Dola, Hardin Co.	Dolomite	6.72	-0.25	-0.20	-0.74
Po-124	Freedom, Portage Co.	Sandstone	75.12	+1.05	-0.34	+1.15
Tu-1	Strasburg, Tuscarawas Co.	Gravel	13.58	-1.73	-0.62	-3.11

GROUND-WATER LEVELS



Base periods: F-1, 1947-2010; H-1 1951-2010.
Hn-2a, 1955-2010

LAKE ERIE LEVELS



Base period: 1918-2010

■ Record high and low, year of occurrence

Normal - - - - Current ———

(Precipitation continued from front)

Precipitation during the 2012 calendar year is below normal statewide. The state average is 13.67 inches, 1.95 inches below normal. Regional averages range from 15.87 inches, 1.70 inches below normal, for the South Central Region to 10.97 inches, 2.56 inches below normal, for the Northwest Region.

SUMMARY

Precipitation during May was below normal across much of the state, but above normal in the southern third. Streamflow was below normal across most of the state. Reservoir storage declined slightly in the Mahoning River basin and increased in the Scioto River basin. Storage continues to be below normal in the Mahoning basin reservoirs, and is at the seasonal normal in the Scioto basin reservoirs. Ground water levels declined throughout most of the state and are below normal across most of Ohio. Lake Erie level declined 0.13 foot and was 0.10 foot below the long-term May average.

ACKNOWLEDGMENTS

This report has been compiled from Division 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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