MONTHLY WATER INVENTORY REPORT FOR OHIO

March 2012

http://www.ohiodnr.gov/tabid/4191/Default.aspx

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PRECIPITATION during March varied greatly across the state, but was generally above normal in northern, central and southeastern Ohio and below normal in the west-central, southwestern and east-central areas of the state. The average for the state was 3.19 inches, 0.03 inch below normal. Regional averages ranged from 4.06 inches, 0.52 inch above normal, for the Southeast Region to 2.10 inches, 0.93 inch below normal, for the West Central Region. Buckeye Lake (Licking County) reported the greatest amount of March precipitation, 8.65 inches. Grand Rapids (Wood County) reported the least amount, 1.02 inches.

Precipitation during March fell as rain and snow, but snow amounts were below normal as temperatures averaged noticeably above normal throughout the state. Chardon (Geauga County), reported 1.5 inches of snow for March, bringing its seasonal total to 57 inches, about 47 inches below normal. For much of the month, conditions were more typical of early summer than early spring with scattered showers and isolated, locally severe thunderstorms. A strong storm system moved through the region on March 2 with showers and thunderstorms. Some of the storms were severe with large hail, brief heavy rain and tornadoes. The strongest storms crossed into southern Ohio late in the day with several of these storms producing tornadoes. The hardest hit area was the town of Moscow in Clermont County where a powerful tornado caused extensive damage and the loss of three lives. Most areas of the state received at least 0.25 inch of precipitation from this system, with the greatest amounts of about 1 inch falling in northwestern and extreme southern Ohio. Precipitation was widespread on March 8 with the greatest amount falling south and east of a Cincinnati-Columbus-Youngstown line. Showers and thunderstorms moved across the state during March 15-16. The heaviest rain fell in a line extending from northwest and north-central Ohio south through central Ohio and into south-central Ohio. Along this line 1-2 inches of rain fell, with more than 4 inches reported in Licking County. Small stream and urban flooding was especially severe in Licking County where many roads were flooded and several people had to be rescued. Other notable storms occurred during March 18-19, 23-24 and on March 30. Showers and thunderstorms during March 18-19 were most numerous across the eastern half of the state where 1-2 inches was reported. The heaviest rain during March 23-24 occurred in the western one-third of the state, decreasing in amount as the storms moved east. Some areas in central and southeastern Ohio received 0.50-1.0 inch on March 30.

Precipitation for the first half of the 2012 water year is above normal statewide. The state average is 22.56 inches, 5.95 inches above normal. Regional averages range from 24.98 inches, 6.50 inches above normal,

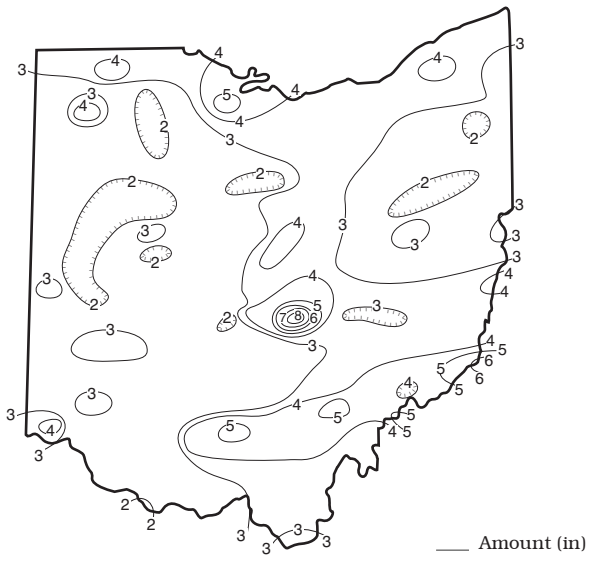
(Continued on back)

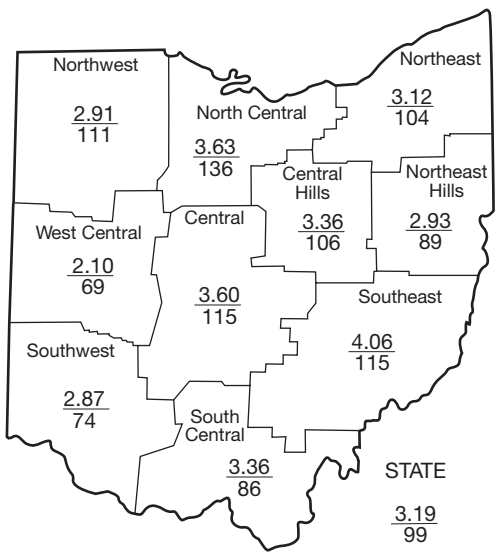
PRECIPITATION

Region	DEPARTURE FROM NORMAL (IN.) Base period 1961-2010					Palmer Drought Severity Index*
	This Month	Past 3 Mos.	Past 6 Mos.	Past 12 Mos.	Past 24 Mos.	
Northwest	+0.30	+0.85	+7.12	+16.59	+18.01	+3.2
North Central	+0.96	+1.94	+7.64	+18.86	+23.35	+5.2
Northeast	+0.12	+1.43	+6.85	+18.45	+22.84	+3.4
West Central	-0.93	-0.97	+5.27	+13.87	+14.97	+1.7
Central	+0.46	+1.05	+6.95	+15.67	+16.36	+1.9
Central Hills	+0.18	+0.67	+6.76	+13.21	+14.27	+2.1
Northeast Hills	-0.36	-0.33	+4.43	+12.47	+14.05	+0.2
Southwest	-1.02	-0.49	+6.50	+17.22	+14.88	+1.3
South Central	-0.53	-1.50	+2.87	+14.47	+19.63	+1.0
Southeast	+0.52	+0.49	+5.21	+13.71	+15.12	+2.1
State	-0.03	+0.31	+5.95	+15.43	+17.34	

*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 MARCH





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	1,683	102	98	139	157
Great Miami River at Hamilton	3,630	4,300	78	115	188	208
Huron River at Milan	371	741	135	114	187	214
Killbuck Creek at Killbuck	464	737	109	115	168	157
Little Beaver Creek near East Liverpool	496	892	111	110	124	129
Maumee River at Waterville	6,330	9,656	113	101	185	185
Muskingum River at McConnelsville	7,422	13,130	108	109	150	138
Scioto River near Prospect	567	747	95	105	218	239
Scioto River at Higby	5,131	7,296	90	108	172	194
Stillwater River at Pleasant Hill	503	475	61	83	146	162

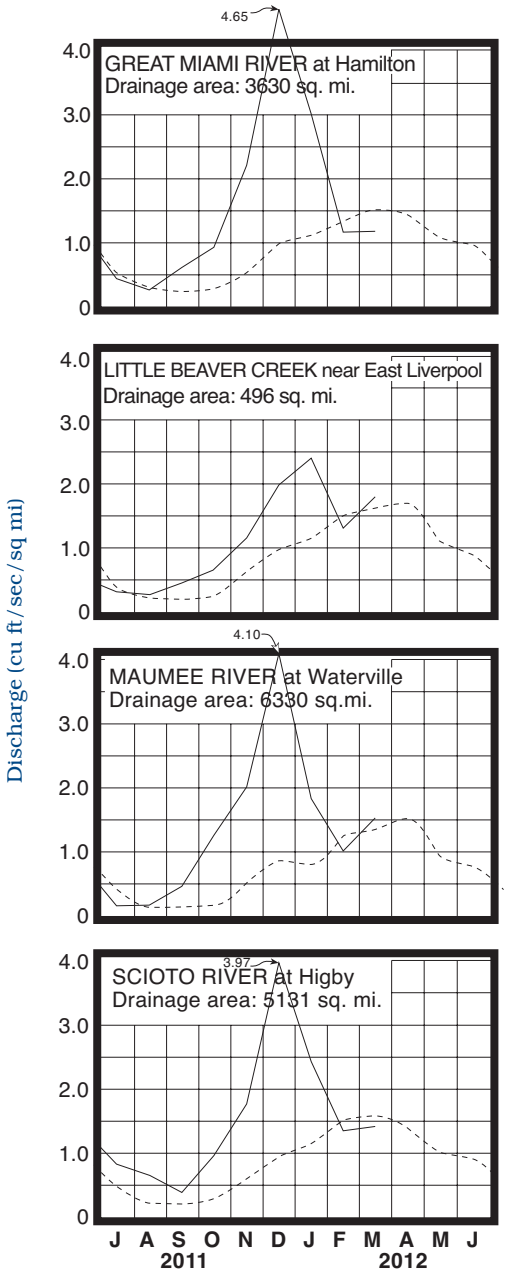
STREAMFLOW during March was above normal across much of the state, but below normal in the west-central, southwestern and south-central areas of Ohio. Flows during March increased seasonally from the flows observed during February statewide.

Flows at the beginning of the month were generally above normal in northern Ohio and below normal in southern Ohio. Flows increased in most basins during the first few days of March, with areas in western and northeastern Ohio reporting their greatest monthly flows during March 1-4. Flows generally declined during the month with increases observed following local precipitation. Greatest flows for the month occurred during March 16-20 following locally heavy rainfall in areas of northwestern, north-central, central and south-central Ohio. Minor flooding was observed in some areas in these regions, but major flooding was observed in parts of Licking County as a result of the more than 4 inches of rain that fell on some parts of the county. Lowest flows for the month occurred around March 22 and 23 in the western third of Ohio and on either March 30 or 31 in the eastern two-thirds of the state. Flows at the end of March were below normal statewide.

RESERVOIR STORAGE for water supply during March increased in both the Mahoning and Scioto river basins. Storage remained below normal in both basins.

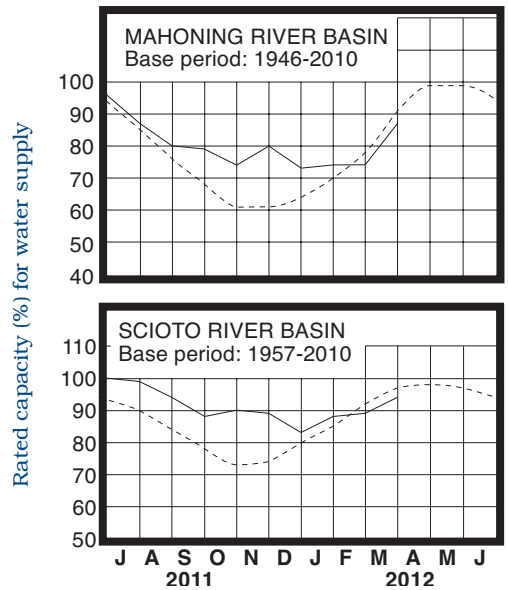
Reservoir storage at the end of March in the Mahoning basin index reservoirs was 87 percent of rated capacity for water supply compared with 74 percent for last month and 93 percent for March 2011. Month-end storage in the Scioto basin index reservoirs was 94 percent of rated capacity for water supply compared with 89 percent for last month and 94 percent for March 2011.

MEAN STREAM DISCHARGE



Base period for all streams: 1981-2010

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	10.92	+2.31	-0.21	-0.74
Fa-1	Jasper Mill, Fayette Co.	Limestone	7.99	-0.79	-0.44	+0.19
Fr-10	Columbus, Franklin Co.	Gravel	41.66	+1.38	+0.32	+2.23
H-1	Harrison, Hamilton Co.	Gravel	22.04	-0.96	-0.87	-1.22
Hn-2a	Dola, Hardin Co.	Dolomite	6.20	+1.02	+0.03	+0.57
Po-124	Freedom, Portage Co.	Sandstone	74.96	+1.63	+0.47	+2.28
Tu-1	Strasburg, Tuscarawas Co.	Gravel	12.02	-0.12	-0.53	-0.93

GROUND WATER levels during March showed mixed results. Generally, most aquifers in northern Ohio showed improvement during the month while aquifers in southern Ohio showed a net decline. March is usually a month in which ground water levels normally rise statewide. Even in aquifers in which water levels rose during the month, the rises were less than what is expected for this time of the year.

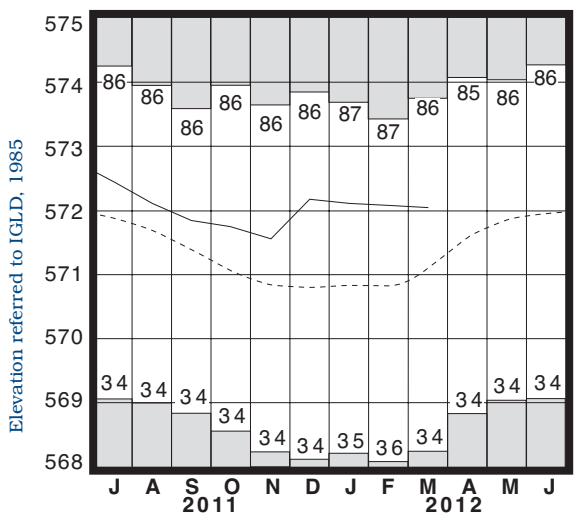
The 2012 recharge season got off to an excellent start as above normal precipitation fell across Ohio. By early December ground water levels had risen to above normal throughout the state, however, the record warm temperatures during March combined with below normal precipitation across much of Ohio the past 2 months appear to have brought an early end to the current recharge season. Ground water levels remain above normal across much of the state, but have fallen to below normal in aquifers in southwestern Ohio. Also, current ground water levels are higher than they were at this time last year across much of the state, but are lower in several shallower aquifers. In spite of the recent unfavorable conditions, ground water supplies remain adequate throughout the state. The Ohio Agricultural Statistics Service reports that near the end of March, soil moisture was rated as being short in 1 percent of the state, adequate in 70 percent of the state, and surplus in 29 percent of the state.

LAKE ERIE level declined during March. The mean level was 572.05 feet (IGLD-1985), 0.03 foot lower than last month's mean level and 0.95 foot above normal. This month's mean level is 1.09 feet above the March 2011 level and 2.85 feet above Low Water Datum.

The U.S. Army Corps of Engineers (USACE) reports that precipitation in the Lake Erie basin during March averaged 2.86 inches, 0.11 inch above normal. For the entire Great Lakes basin, March precipitation averaged 2.19 inches, 0.02 inch above normal. For calendar year 2012 through March, the Lake Erie basin has averaged 7.82 inches, 0.48 inch above normal, and the entire Great Lakes basin has averaged 6.17 inches, 0.01 inch above 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 fall from its current position of 11 inches above normal to about normal by late summer. Deviations from the anticipated weather patterns could result in the level of Lake Erie ranging from as much as 9 inches above normal to about 8 inches below the normal seasonal average.

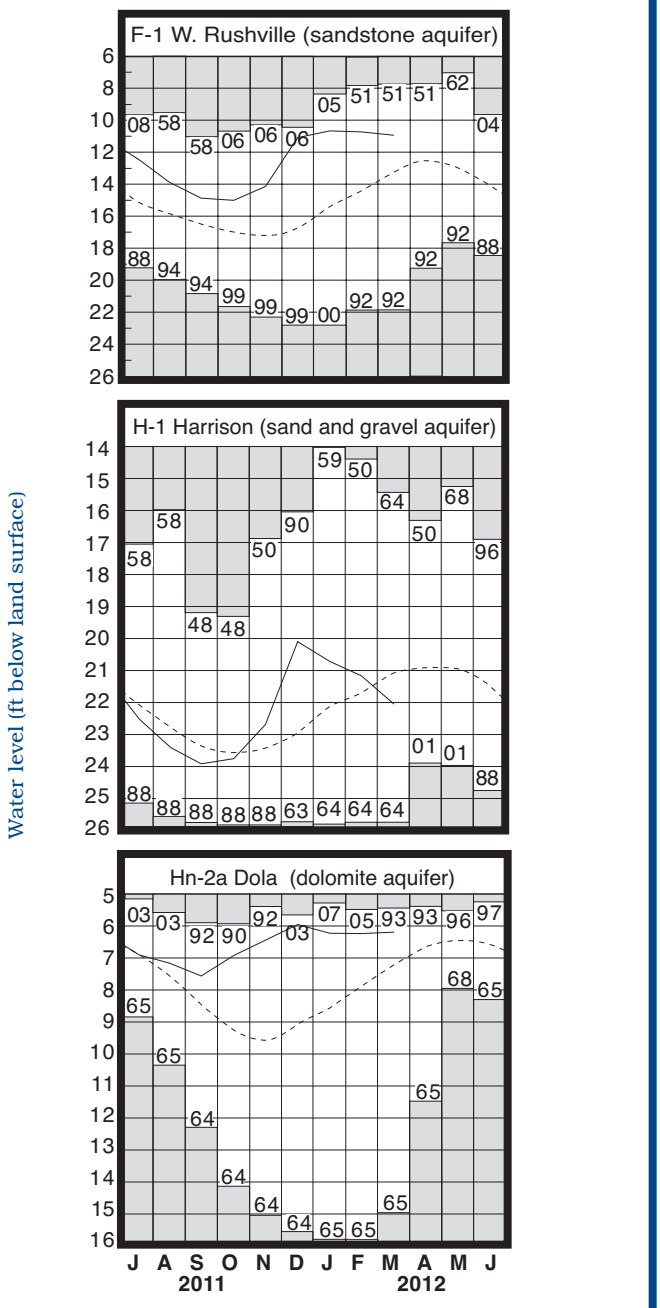
LAKE ERIE LEVELS



Base period: 1918-2010

Record high and low, year of occurrence

GROUND-WATER LEVELS



Base periods: F-1, 1947-2010; H-1 1951-2010.

Hn-2a, 1955-2010 Record high and low, year of occurrence

Normal – – – – Current ———

(Precipitation continued from front)

for the Southwest Region to 21.08 inches, 5.27 inches above normal, for the West Central Region (see Precipitation table, departure from normal, past six months column).

Precipitation for the 2012 calendar year is above normal in northern, central and southeastern Ohio and below normal in the west-central, southwestern and east-central areas of the state. The state average is 8.29 inches, 0.31 inch above normal. Regional averages range from 9.30 inches, 0.49 inch above normal, for the Southeast Region to 7.33 inches, 0.85 inch above normal, for the Northwest Region (see Precipitation table, departure from normal, past three months column).

SUMMARY

Precipitation during March was generally above normal in northern, central and southeastern Ohio and below normal in the west-central, southwestern and east-central areas of the state. Streamflow was above normal across much of the state. Reservoir storage increased, but remained below normal. Ground water levels declined or rose less than normally expected for this time of the year. Lake Erie level declined 0.03 foot and was 0.95 foot above the long-term March average.

NOTES AND COMMENTS

New Fact Sheet Available

The Ohio Department of Natural Resources, Division of Soil and Water Resources announces the availability of the new publication:

Water Withdrawal Regulations for Oil and Gas Drilling (Fact Sheet Number 12-68)

This fact sheet contains information that is intended to assist oil and gas drilling companies in understanding the regulations governing water withdrawals and the use of water in the state of Ohio. It will be of particular interest to those drilling companies that are contemplating drilling oil or gas wells in Ohio. This fact sheet provides general information regarding water rights, water withdrawal regulations, diversions of water across the Lake Erie-Ohio River watershed divide and consumptive water use. Fact Sheet 12-68 can be viewed or downloaded by visiting the Division of Soil and Water Resources web site at: http://www.dnr.state.oh.us/tabid/21817/Default.aspx.

Reminder: Severe Weather Awareness Week

Governor John Kasich has designated the week of March 25-31, 2012 as Spring Severe Weather Safety Awareness Week. The goal is to better educate people about the hazards of severe weather and to encourage people to have a plan in the event severe weather should occur. March 2012 is a good example of why it is important to raise the awareness about the hazards of severe weather. In addition to the tornado that devastated Moscow, Ohio and killed three people, six other tornadoes touched down in southwestern and south-central Ohio on March 2. Two more tornadoes touched down in southwestern Ohio during severe storms on March 23. The flooding in Licking County on March 15 occurred early in the morning. The floodwaters rose rapidly as a result of the more than 4 inches of rain that fell in about a 3-hour period. Many roads and homes were flooded, and several people were stranded in their homes or vehicles. Fortunately, nobody was seriously injured or killed during this weather event. Flooding is one of the leading causes of weather-related deaths in Ohio. These events are why the Ohio Committee for Severe Weather Awareness (OCSWA) sponsors two awareness weeks each year to draw attention for the need to prepare for severe weather. Communities and individuals should take time to plan a course of action they would take in the event severe weather was to affect them and their property.

For more information, please visit the OCSWA web page at: http://www.weathersafety.ohio.gov/ or the National Weather Service (Wilmington Office) web page at: http://www.erh.noaa.gov/iln/index.php.

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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