



MONTHLY WATER INVENTORY REPORT FOR OHIO

March 2015

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<http://soilandwater.ohiodnr.gov/water-use-planning/water-inventory-levels>

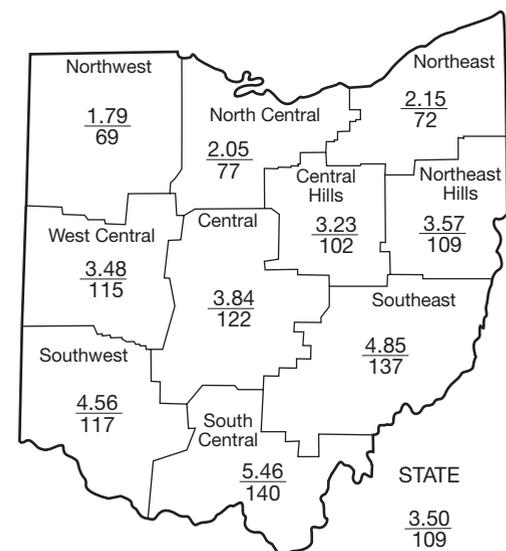
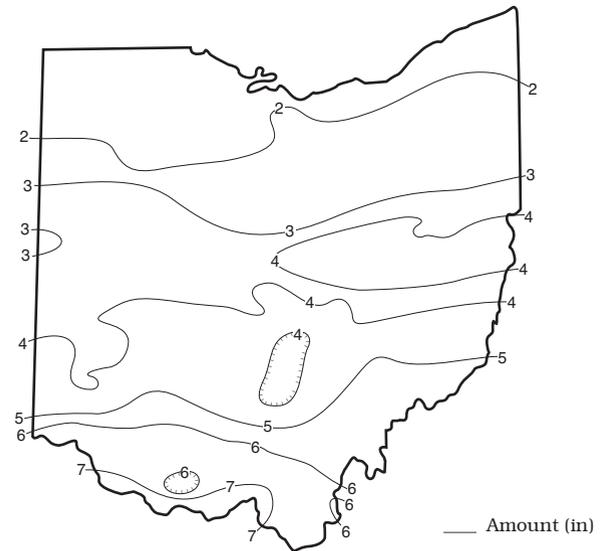
PRECIPITATION during March was above normal in the southern two-thirds and below normal in the northern third of Ohio. The state average was 3.50 inches, 0.28 inch above normal. Regional averages ranged from 5.46 inches, 1.57 inches above normal, for the South Central Region to 1.79 inches, 0.82 inch below normal, for the Northwest Region. Portsmouth (Lawrence County) reported the greatest amount of March precipitation, 7.27 inches. Wauseon (Fulton County) reported the least amount, 1.09 inches.

Precipitation during March fell as rain and snow in varying amounts. The largest totals fell in southern Ohio and diminished to the north and west. Snowfall for the month was generally above normal in southern Ohio and below normal in northern Ohio. Precipitation was widespread during the first five days of March. More than 3 inches fell across areas of south-central and southeastern Ohio during this period, tapering to the northwest to less than 0.25 inch at some locations. The month started with 4-8 inches of snow falling across northern Ohio and rain in southern Ohio. Most of the state received some light rain on March 3, and on March 4 heavy rain fell across the southern half of the state. The rain changed to snow and by March 5, there was 12-18 inches of snow on the ground in many areas of south-central and southeastern Ohio. Rain on March 10 was heaviest across southern Ohio with 0.5 to 1 inch common and more than 1 inch in areas of extreme south-central and southeastern Ohio. Most of the state received at least 0.5 inch of rain during March 13-14 with more than 2 inches in areas of southwestern Ohio. However, much of northwestern Ohio received little or no rain during this period. Light snow fell across the state on March 23. Most areas received 1 inch or less, but an area from west-central through central Ohio received 3-5 inches. The snow quickly melted as warmer temperatures and rain moved back into the state during March 25-26. Most areas in Ohio received between 0.75 and 1.0 inch of precipitation, but little rain fell in extreme southeastern Ohio.

Precipitation for the 2015 calendar year is below normal across most of the state with only the Central Hills and Southeast regions having slightly above normal precipitation. The state average is 7.64 inches, 0.34 inch below normal. Regional averages range from 9.16 inches, 0.33 inch below normal, for the South Central Region to 5.06 inches, 1.42 inches below normal, for the Northwest Region (see Precipitation table, departure from normal, past three months column).

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PRECIPITATION MARCH



Average (in)
Percent of normal

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	-0.82	-1.42	-3.77	-2.87	+0.56	-0.7
North Central	-0.62	-0.34	-2.39	+0.30	+7.54	+1.6
Northeast	-0.85	-0.13	-0.95	+6.21	+12.07	+0.9
West Central	+0.45	-0.17	-2.31	+0.02	+0.96	-0.5
Central	+0.70	-0.28	-1.93	-0.43	+2.46	-0.2
Central Hills	+0.05	+0.11	-2.02	+2.96	+7.26	+0.4
Northeast Hills	+0.28	-0.57	-1.93	+5.27	+6.30	+0.4
Southwest	+0.67	-0.30	-1.43	-1.18	+0.18	+0.5
South Central	+1.57	-0.33	+0.62	-1.43	-1.42	+0.4
Southeast	+1.31	+0.07	-0.02	-0.60	+2.63	+0.1
State	+0.28	-0.34	-1.62	+0.82	+3.81	

*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

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	2,659	161	106	96	117
Great Miami River at Hamilton	3,630	8,254	149	87	75	107
Huron River at Milan	371	1,497	274	117	91	123
Killbuck Creek at Killbuck	464	1,253	185	100	84	124
Little Beaver Creek near East Liverpool	496	1,549	193	135	108	119
Maumee River at Waterville	6,330	12,240	143	68	62	87
Muskingum River at McConnelsville	7,422	20,100	165	90	78	104
Scioto River near Prospect	567	1,427	181	80	59	97
Scioto River at Higby	5,131	13,030	161	81	73	103
Stillwater River at Pleasant Hill	503	1,187	151	88	71	92

STREAMFLOW during March was above normal throughout Ohio. Flows were high enough to be considered excessive across most of the eastern two-thirds of the state. Flows during March were noticeably greater than the flows observed during February.

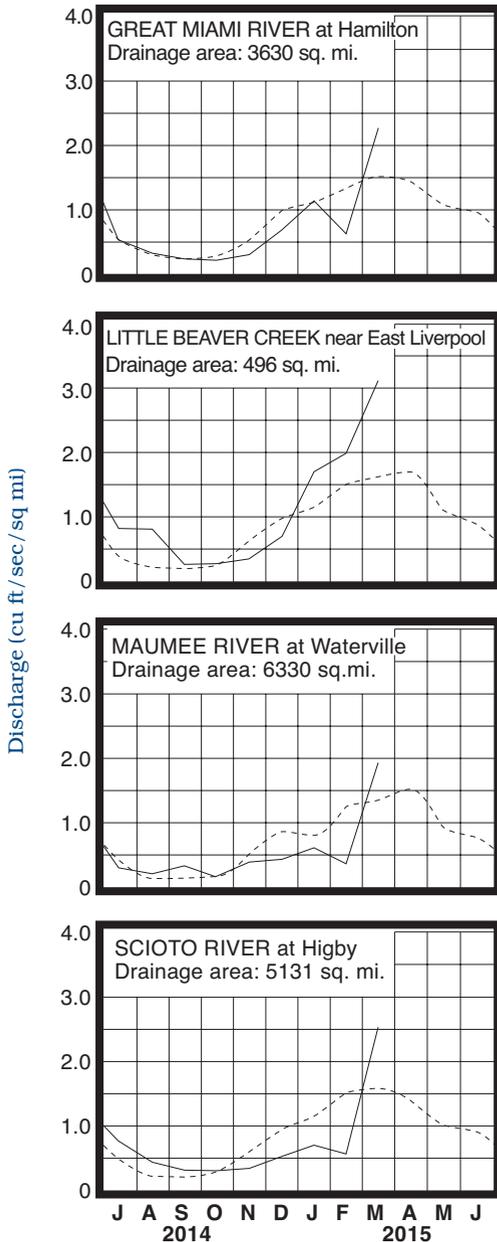
Flows at the beginning of the month were below normal throughout the state. Most drainage basins had their lowest flow for the month during the first three days of March; a few basins in northwestern Ohio had their lowest flow on March 8. Flows across the state increased during the first half of the month due to a combination of precipitation and melting snow. Most drainage basins had their greatest flows for the month during March 14-17. Flooding was reported across many areas of the state. Most of the flooding was minor,

but some moderate flooding was observed in parts of northern Ohio as ice jams contributed to the flooding situation. Following these peaks, flows generally decreased through the end of the month, although there were some temporary increases observed around March 25-26 following widespread rain. Flows at the end of the month were below normal throughout most of the state.

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

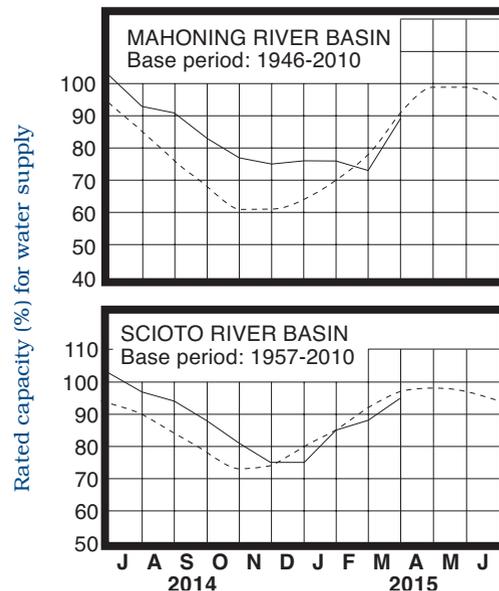
Reservoir storage at the end of March in the Mahoning basin index reservoirs was 89 percent of rated capacity for water supply compared with 73 percent for last month and 93 percent for March 2014. Month-end storage in the Scioto basin index reservoirs was 95 percent of rated capacity for water supply compared with 88 percent for last month and 97 percent for March 2014.

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	12.95	+0.28	+1.78	-1.31
Fa-1	Jasper Mill, Fayette Co.	Limestone	8.95	-1.75	+0.30	-0.12
Fr-10	Columbus, Franklin Co.	Gravel	42.24	+0.80	+0.29	+0.07
H-1	Harrison, Hamilton Co.	Gravel	21.90	-0.82	+1.40	+0.32
Hn-2a	Dola, Hardin Co.	Dolomite	7.77	-0.55	+0.53	-0.16
Po-124	Freedom, Portage Co.	Sandstone	76.94	-0.35	-0.01	+0.09
Tu-1	Strasburg, Tuscarawas Co.	Gravel	12.32	-0.42	+1.19	+0.92

GROUND WATER levels during March showed some improvement in most aquifers in Ohio. Net rises during March from the February levels were greater than usually observed in southern Ohio aquifers and less in northern Ohio aquifers. Levels in most aquifers rose throughout most of the month; however, some shallower aquifers rose during the first half of the month and declined during the second half.

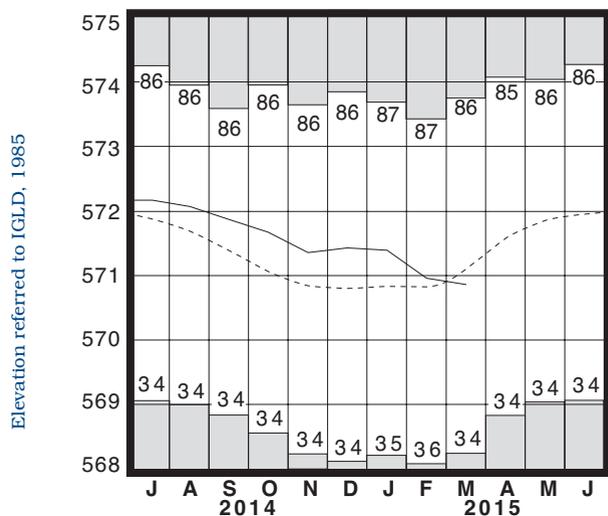
Ground water storage is favorable throughout the state. The above normal precipitation across the southern two-thirds of Ohio during March was beneficial to ground water supplies in those particular areas of the state. However, below normal precipitation throughout most of Ohio during the 2015 water year thus far has not been ideal for ground water supplies (see Precipitation table, departure from normal, past six months column). Recharge has been less than normal in most aquifers and ground water storage continues to be below normal in most areas of the state. The 2015 water year recharge season will soon come to an end; however, above normal rainfall during the next couple of months can still be beneficial and improve the ground water storage situation across Ohio.

LAKE ERIE level declined during March. The mean level was 570.83 feet (IGLD-1985), 0.13 foot below last month's mean level and 0.27 foot below normal. This month's level is the same as the March 2014 level and 1.63 feet above Low Water Datum.

The U.S. Army Corps of Engineers (USACE) reports that precipitation in the Lake Erie basin during March averaged 1.05 inches, 1.71 inches below normal. For the entire Great Lakes basin, March precipitation averaged 0.93 inch, 1.23 inches below normal. For the first three months of calendar year 2015 precipitation in the Lake Erie basin has averaged 4.02 inches, 3.32 inches below normal, while the entire Great Lakes basin has averaged 3.14 inches, 3.00 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 range between 4 inches above and 3 inches below normal for the foreseeable future. Deviations from the anticipated weather patterns could result in the level of Lake Erie ranging from as high as 14 inches above normal to as low as 6 inches below the normal seasonal level.

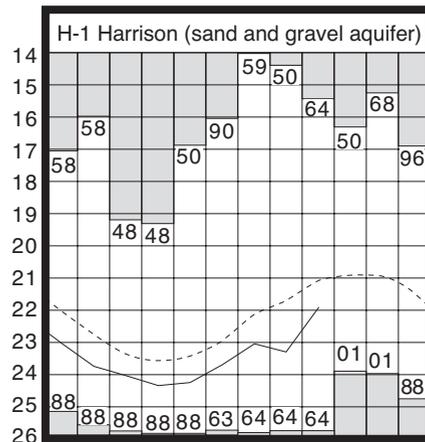
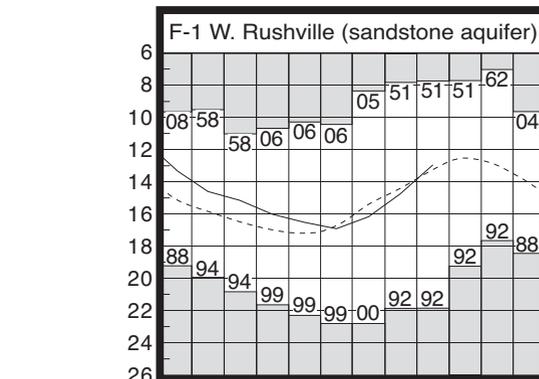
LAKE ERIE LEVELS



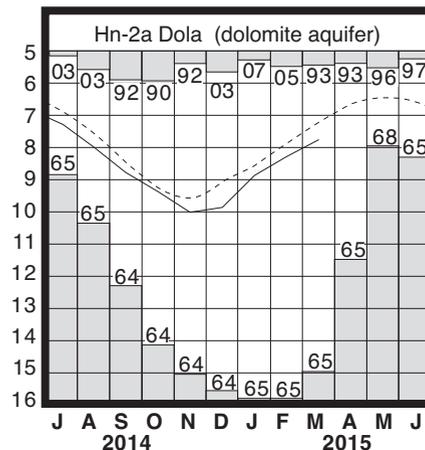
Base period: 1918-2010

■ Record high and low, year of occurrence

GROUND-WATER LEVELS



Water level (ft below land surface)



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)

Precipitation for the 2015 water year is below normal throughout most of Ohio with only the South Central Region having above normal precipitation. The state average is 14.99 inches, 1.62 inches below normal. Regional averages range from 18.94 inches, 0.62 inch above normal, for the South Central Region to 10.56 inches, 3.77 inches below normal, for the Northwest Region.

SUMMARY

Precipitation during March was above normal in the southern two-thirds and below normal in the northern third of the state. Streamflow was above normal statewide and high enough to be considered excessive in the eastern two-thirds of Ohio. Reservoir storage increased but remained below normal in both the Mahoning and Scioto river basins. Ground water levels showed some improvement in most aquifers, but remained below normal throughout most of the state. Lake Erie level declined 0.13 foot and was 0.27 foot below the long-term March average.

NOTES AND COMMENTS

Buckeye Lake Dam Report

Buckeye Lake was constructed 1825-1832 as a canal feeder lake and encompasses more than 2,300 acres of water. In 1949, the lake became part of Buckeye Lake State Park, the first state park in Ohio. Buckeye Lake is located east of Columbus and situated in parts of three counties; Fairfield, Licking and Perry. In 2014, the Ohio Department of Natural Resources (ODNR) retained the U.S. Army Corps of Engineers (USACE) to evaluate the condition of the Buckeye Lake Dam. The assessment began in June 2014 and the final report of the findings was released on March 11, 2015. Through their investigation, the USACE found that there are numerous defects that could possibly result in a failure of the dam. As a result of these findings, ODNR has concluded that the best approach to ensuring the safety of people and property is to keep the level on Buckeye Lake as close to winter pool as possible until improvements to the dam are completed. To view the full report from the USACE online go to

http://engineering.ohiodnr.gov/portals/engineering/PDFs/BL_Dam-CORP_Rpt_03-11-2015.pdf

Information and updates concerning operations of Buckeye Lake and the dam, please go to engineering.ohiodnr.gov/buckeyelake/.

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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