



# MONTHLY WATER INVENTORY REPORT FOR OHIO

January 2015

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

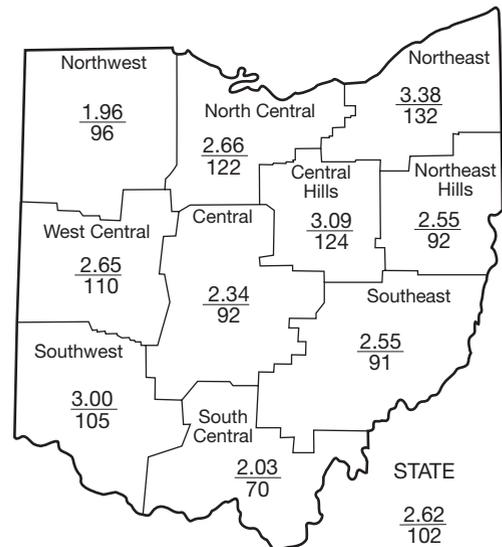
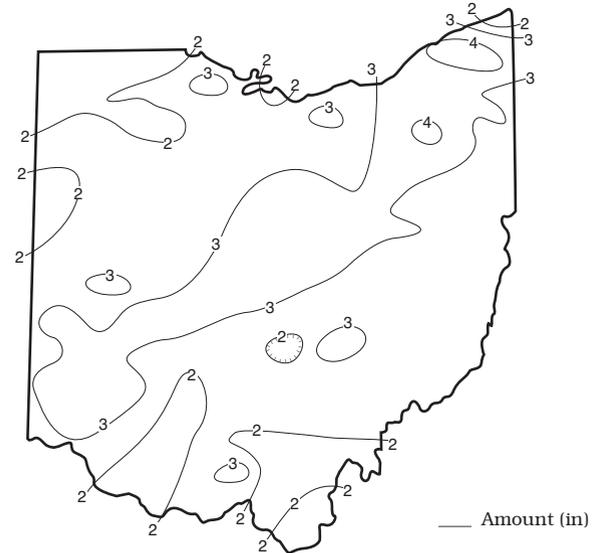
**PRECIPITATION** during January was above normal in southwestern, western and northeastern Ohio and below normal in the northwestern, central and southeastern areas of the state. The state average was 2.62 inches, 0.06 inch above normal. Regional averages ranged from 3.38 inches, 0.82 inch above normal, for the Northeast Region to 1.96 inches, 0.08 inch below normal, for the Northwest Region. Dorset (Ashtabula County) reported the greatest amount of precipitation during January, 4.57 inches. Van Wert (Van Wert County) reported the least amount, 1.10 inches.

Precipitation during January fell as rain and snow. Snowfall amounts were generally above normal in northern Ohio and below normal in the southern areas of the state. Precipitation fell over much of Ohio on about half of the days of the month, but daily amounts were generally light. Widespread precipitation fell across the state during January 3-4. Areas from southwestern to northeastern Ohio reported 1-2 inches of precipitation while the remainder of the state generally received between 0.5 and 1.0 inch. Precipitation during January 11-12 fell as mainly snow in northern Ohio and as a mix in southern Ohio. Most areas reported 0.25-0.5 inch of precipitation during this period. The last ten days of the month were rather wet across most of the state with measurable precipitation on several days. Much of the state reported amounts of 0.5 inch during this period with more than 1 inch in areas of northeastern Ohio; however, areas in northwestern Ohio reported less than 0.25 inch. Most of northern Ohio received several inches of snow during January 25-26 while southern Ohio received mostly rain. Light precipitation fell across the state during the last three days of January. Northeastern Ohio reported the greatest amount of precipitation.

Precipitation for the 2015 water year is below normal throughout most of the state with only the South Central Region having slightly above normal precipitation. The state average is 9.97 inches, 1.22 inches below normal. Regional averages range from 12.18 inches, which is normal, for the Northeast Region to 7.46 inches, 2.43 inches below normal, for the Northwest Region.

Precipitation for the 2015 calendar year is off to a good start as far as precipitation is concerned in many areas of the state. However, much of northwestern, central and southeastern Ohio started the year with below normal precipitation. Near-normal precipitation during the next several months will benefit the state's water supplies and agriculture.

## PRECIPITATION JANUARY



## 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	-0.08	-2.19	-0.66	-1.45	+0.83	+0.5
North Central	+0.48	-1.66	-2.34	+0.48	+7.33	+2.7
Northeast	+0.82	-0.54	+1.08	+6.59	+12.10	+2.2
West Central	+0.24	-1.46	-3.00	-0.40	+0.75	-1.3
Central	-0.20	-1.72	-3.83	-1.39	+1.97	-1.3
Central Hills	+0.59	-1.49	-2.17	+2.46	+6.65	-0.3
Northeast Hills	-0.21	-1.51	+0.15	+4.31	+5.17	-0.3
Southwest	+0.14	-1.02	-1.89	-2.04	-0.67	-0.3
South Central	-0.89	-1.87	-2.19	-2.41	-3.56	-2.0
Southeast	-0.26	-1.14	-1.57	-1.60	+0.86	-0.7
State	+0.06	-1.47	-1.65	+0.46	+3.10	

\*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	1,885	146	94	105	114
Great Miami River at Hamilton	3,630	4,136	102	64	63	110
Huron River at Milan	371	447	95	50	46	137
Killbuck Creek at Killbuck	464	459	91	59	76	114
Little Beaver Creek near East Liverpool	496	846	149	79	84	103
Maumee River at Waterville	6,330	3,898	77	50	56	105
Muskingum River at McConnelsville	7,422	6,889	84	57	68	97
Scioto River near Prospect	567	313	70	25	26	94
Scioto River at Higby	5,131	3,611	61	50	62	100
Stillwater River at Pleasant Hill	503	462	106	51	50	90

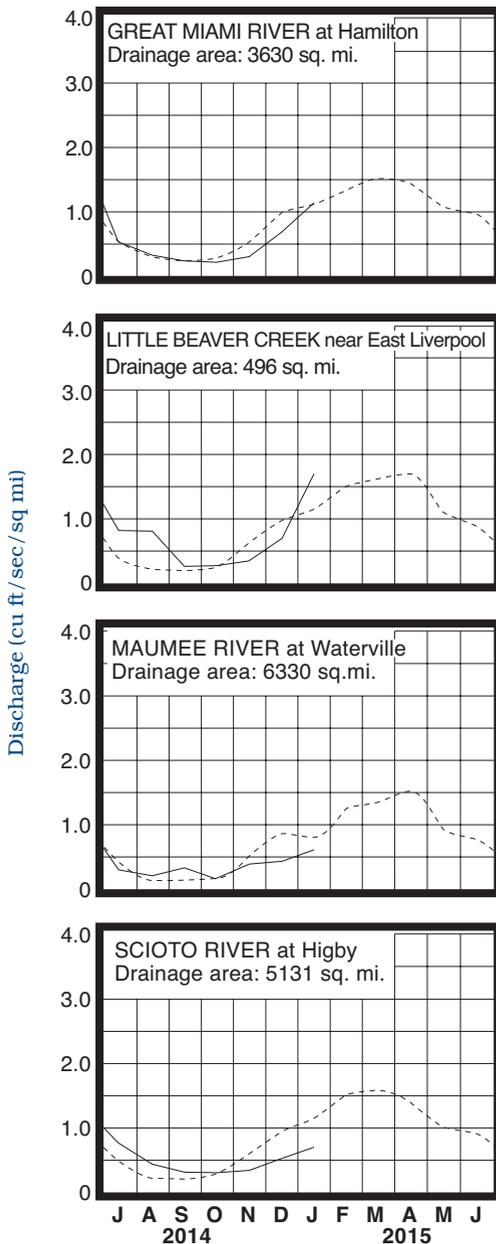
**STREAMFLOW** during January was below normal across much of the state, but above normal in drainage basins in northeastern and southwestern Ohio. Flows in most drainage basins during January increased from the December flows.

Streamflow at the beginning of the month was below normal statewide. Lowest flows in January for most areas of the state occurred during the first three days of the month. Flows increased from these lows following widespread precipitation during January 3 and 4. Drainage basins throughout most of Ohio recorded their greatest flows for the month during January 4-6. Following these peaks, flows declined through the end of the month except for some temporary increases following local precipitation and some melting of snow, especially around January 19-23. A few basins in northern Ohio had their lowest flow at or near the end of the month. At the end of January, streamflow was below normal throughout the state.

**RESERVOIR STORAGE** for water supply during January was unchanged in the Mahoning River basin and increased in the Scioto River basin. At month's end storage was above normal in the Mahoning River basin and was normal in the Scioto River basin.

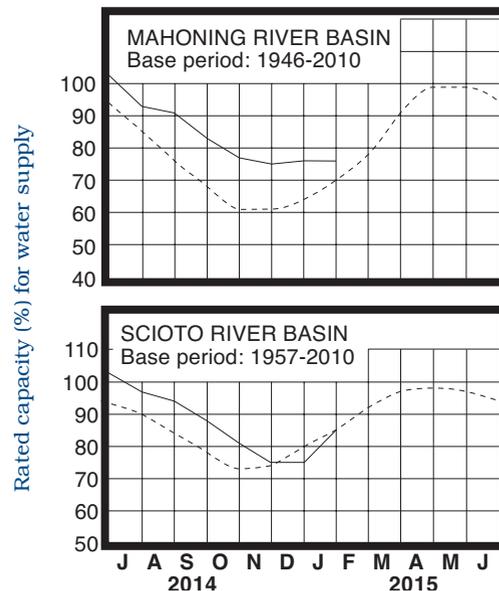
Reservoir storage at the end of January in the Mahoning basin index reservoirs was 76 percent of rated capacity for water supply compared with the same percent for last month and 73 percent for January 2014. Month-end storage in the Scioto basin index reservoirs was 85 percent of rated capacity for water supply compared with 75 percent for last month and 93 percent for January 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

**GROUND WATER LEVELS** during January rose in all aquifers throughout the state. Net changes from December's levels during January were less than usually observed in most aquifers, but greater in some consolidated aquifers in western Ohio.

Ground water levels generally rose steadily throughout most of the month; levels in a few aquifers rose early in the month, and then were rather stable during the remainder of January. Levels in some aquifers in northern Ohio were beginning to decline at the end of the month. Current ground water levels are lower than they were a year ago in most aquifers, ranging from about 0.25 foot to more than 4 feet below the January 2014 levels. Ground water storage continues to remain at below normal levels throughout most of the state, especially in the western half of Ohio. Current conditions are favorable for continued improvement in ground water storage; however, near-normal precipitation and other climatic conditions will be necessary during the next few months to provide sustained improvement in ground water storage throughout the remainder of the 2015 recharge period.

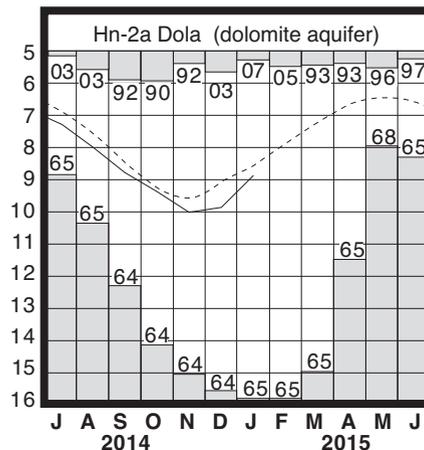
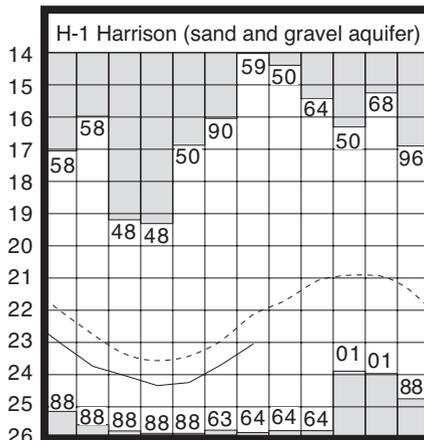
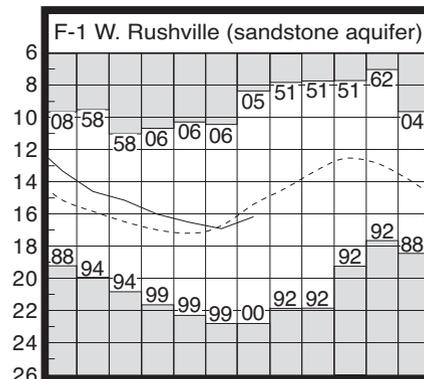
**LAKE ERIE** level declined slightly during January. The mean level was 571.39 feet (IGLD-1985), 0.03 foot lower than last month's mean level and 0.56 foot above normal. This month's mean level is 0.52 foot above the January 2014 level and 2.19 feet above Low Water Datum.

The U.S. Army Corps of Engineers (USACE) reports that precipitation in the Lake Erie basin during January averaged 1.82 inches, 0.67 inch below normal. For the entire Great Lakes basin, January precipitation averaged 1.32 inches, 0.88 inch below normal. The USACE also reports that based on the current condition of the Great Lakes basin and anticipated weather patterns, the level of Lake Erie should remain above normal for the foreseeable future. Deviations from the anticipated weather patterns could result in the level of Lake Erie ranging from as much as 17 inches above normal to about 2 inches below the normal seasonal level.

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	16.19	-0.70	+0.73	-4.31
Fa-1	Jasper Mill, Fayette Co.	Limestone	9.67	-1.69	+1.11	-1.18
Fr-10	Columbus, Franklin Co.	Gravel	42.98	+0.98	+0.29	-0.08
H-1	Harrison, Hamilton Co.	Gravel	23.04	-0.92	+0.66	-1.23
Hn-2a	Dola, Hardin Co.	Dolomite	8.88	-0.31	+0.98	-1.80
Po-124	Freedom, Portage Co.	Sandstone	77.03	-0.21	+0.22	-0.20
Tu-1	Strasburg, Tuscarawas Co.	Gravel	13.83	-0.65	+0.26	-0.36

## GROUND-WATER LEVELS

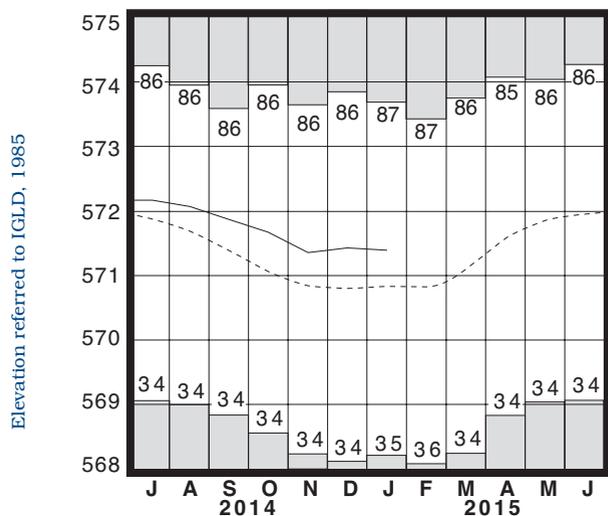
Water level (ft below land surface)



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

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

## LAKE ERIE LEVELS



Base period: 1918-2010

■ Record high and low, year of occurrence

Normal - - - - Current ———

## SUMMARY

Precipitation during January was above normal in southwestern, western and northeastern Ohio and below normal in the northwestern, central and southeastern areas of the state. Streamflow was below normal throughout most of Ohio. Reservoir storage ended the month above normal in the Mahoning River basin and at normal in the Scioto river basin. Ground water levels rose throughout the state, but storage remained below normal across most of Ohio. Lake Erie level declined 0.03 foot and was 0.56 foot above the long-term January average.

## NOTES AND COMMENTS

### Ohio Department of Natural Resources Celebrates National Ground Water Awareness Week

The week of March 8-14, 2015 is National Ground Water Awareness Week. During this week, Ohioans are encouraged to learn more about the state's ground water resources, from wise use to protection. Nearly half of all cities, villages, schools, businesses and industries in Ohio depend on ground water for their drinking, processing and irrigation needs. Almost five million people in Ohio drink ground water provided by community public water systems and almost one million more meet their daily water needs using ground water from private wells.

Ground water resources will become even more valuable in the years ahead as Ohio and other states cope with increasing water demands and ground water contamination due to poor land use planning and water management practices. The ODNR, Division of Soil and Water Resources, Water Resources Section collects, researches, interprets and disseminates information on 140 ground water observation wells located across the state; it also produces several types of ground water maps, addressing various aspects of ground water resources in the state including availability, pollution potential and horizontal direction of ground water flow. In addition, the section collects water use data on all facilities that have the capacity to withdraw over 100,000 gallons of water per day. To learn more about these and other programs at the Division of Soil and Water, please visit their website at: <http://soilandwater.ohiodnr.gov/>.

## 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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