



MONTHLY WATER INVENTORY REPORT FOR OHIO

January 2011

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

Compiled By Scott C. Kirk

Hydrologist
Water Inventory Unit

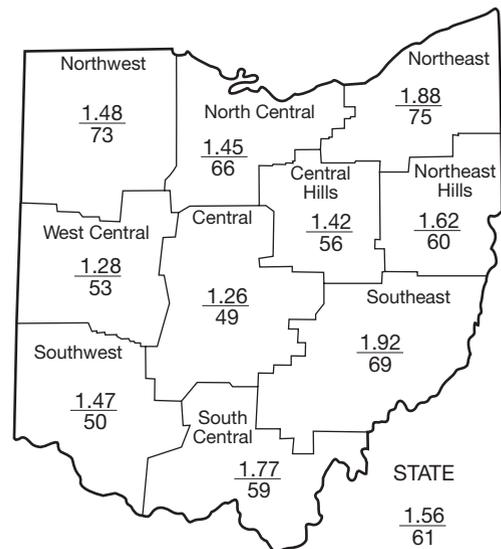
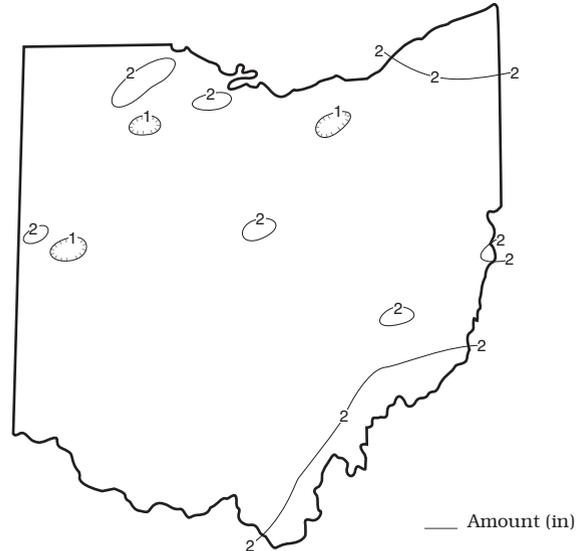
PRECIPITATION during January was below normal statewide. The state average was 1.56 inches, 1.01 inch below normal. Regional averages ranged from 1.92 inches, 0.86 inch below normal, for the Southeast Region to 1.26 inches, 1.29 inches below normal, for the Central Region. Chardon (Geauga County) reported the greatest amount of January precipitation, 2.96 inches. Hoytville (Wood County) reported the least amount, 0.83 inch.

Precipitation fell as rain and snow with temperatures ranging below normal during most of the month. Several stations throughout the state reported measurable precipitation on more than half of the days during January, but only a few days had significant amounts of precipitation. Snow amounts for the month were above normal across most of the state, with the greatest amounts again falling in the northeastern Ohio snowbelt counties. Chardon (Geauga County) received 50 inches of snow for the month, about 20 inches above the average amount. So far this season, Chardon has received 101 inches of snow, 43 inches above normal. Rain fell throughout the state on New Year's Day. Much of the state received between 0.25-0.50 inch of rain on this day; however, some areas in northwestern and southeastern Ohio reported between 0.50-1.0 inch. Most of the snow that fell during the month was rather light across much of the state, but there were some notable amounts reported at various times. Snow during January 6-8 was heaviest across northeastern Ohio with accumulations of 4-8 inches while more than 1 foot was reported in the snowbelt as a result of lake effect. The remainder of the state reported 2-4 inches of snow during this period. Snowfall during January 11-12 added another 5-10 inches in northern Ohio with more than 1 foot again falling in the snowbelt, and 3-6 inches in southern Ohio. Light rain fell across the state on January 18, but colder air quickly returned to Ohio. Snowfall during January 19-21 generally totaled 3-8 inches statewide. The only other notable precipitation occurred during January 26-28 when mainly light rain fell across extreme south-central and southeastern Ohio, bringing 0.25-0.50 inch of precipitation to the area, with up to 1 inch reported at a few isolated locations.

Precipitation for the 2011 water year is below normal throughout most of the state with only the Northeast Region having above normal precipitation. The state average is 9.79 inches, 0.99 inch below normal. Regional averages range from 12.71 inches, 0.96 inch above normal, for the Northeast Region to 7.56 inches, 2.07 inches below normal, for the Northwest Region.

(continued on back)

PRECIPITATION JANUARY



PRECIPITATION

Region	DEPARTURE FROM NORMAL (IN.) Base period 1951-2000					Palmer Drought Severity Index*
	This Month	Past				
		3 Mos.	6 Mos.	12 Mos.	24 Mos.	
Northwest	-0.56	-0.82	-4.28	-0.59	-0.34	-1.8
North Central	-0.76	-0.75	-1.41	+1.25	-0.80	+0.8
Northeast	-0.64	+0.66	-0.54	+0.66	+0.13	+0.3
West Central	-1.14	-0.47	-2.32	-1.77	-5.45	-0.5
Central	-1.29	-0.70	-2.51	-1.67	-3.34	-0.5
Central Hills	-1.10	-0.35	-2.49	-1.33	-3.81	-0.7
Northeast Hills	-1.10	-0.42	-1.93	-1.10	-6.35	-0.5
Southwest	-1.46	-0.72	-5.25	-5.12	-7.20	-1.0
South Central	-1.21	-0.96	-2.20	+1.60	+2.00	-0.4
Southeast	-0.86	-0.80	-1.79	-1.59	-5.04	-0.5
State	-1.01	-0.53	-2.46	-0.94	-3.01	

*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	970	64	80	69	77
Great Miami River at Hamilton	3,630	1,719	43	43	45	87
Huron River at Milan	371	299	70	62	56	72
Killbuck Creek at Killbuck	464	271	52	59	55	78
Little Beaver Creek near East Liverpool	496	461	78	72	65	96
Maumee River at Waterville	6,330	2,218	45	26	27	82
Muskingum River at McConnelsville	7,422	3,961	43	83	81	66
Scioto River near Prospect	567	277	55	48	44	74
Scioto River at Higby	5,131	1,862	29	33	34	72
Stillwater River at Pleasant Hill	503	170	38	36	35	88

STREAMFLOW during January was below normal statewide. Flows were low enough to be considered deficient across much of the state, especially in western and southern Ohio. Flows during January were lower than the December flows throughout most of the state.

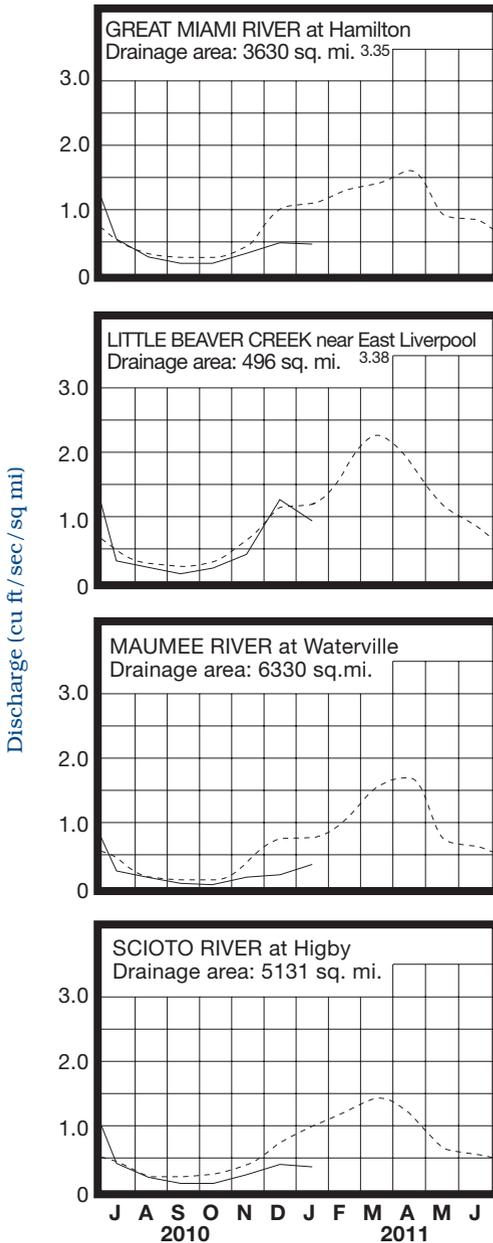
Flows at the beginning of the month were above normal throughout most of Ohio as streamflow responded to melting snow and precipitation at the end of December and the first day of January. Greatest flows for the month statewide occurred within the first 4 days of January. After declining from these peaks during the next 2 weeks, flows increased slightly following light precipitation and melting snow. Low flows for the month occurred just prior to these increases across much of the state, generally during January 17-18.

Flows decreased during the remainder of the month across most of the state. Lowest flows for January occurred at the end of the month in the northeastern quarter of Ohio. Flows at the end of January were below normal statewide.

RESERVOIR STORAGE for water supply during January decreased slightly in the Mahoning River basin and increased slightly in the Scioto River basin. Storage at the end of the month was above normal in the Mahoning River basin and below normal in the Scioto River basin.

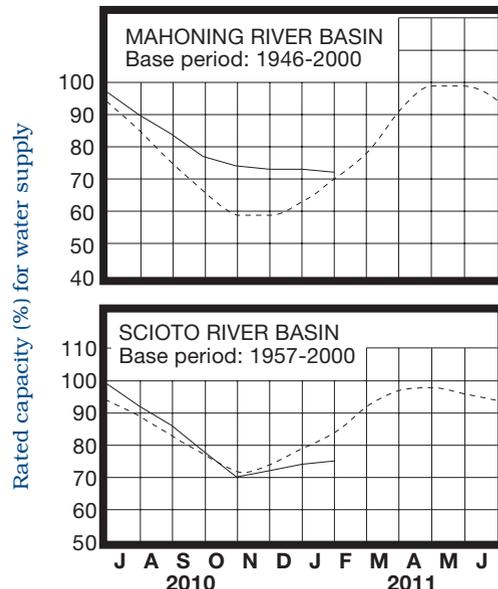
Reservoir storage at the end of January in the Mahoning basin index reservoirs was 72 percent of rated capacity for water supply compared with 73 percent for last month and 80 percent for January 2010. Month-end storage in the Scioto basin index reservoirs was 75 percent of rated capacity for water supply compared with 74 percent for last month and 88 percent for January 2010.

MEAN STREAM DISCHARGE



Base period for all streams: 1971-2000

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 showed net improvement in nearly all aquifers in the state; however, a few unconsolidated aquifers in eastern Ohio declined during the month. Net changes from December's levels were less than usually observed in most aquifers. Ground water levels in shallow, unconsolidated aquifers rose early in the month in response to precipitation and melting snow at the end of December and the first day of January, and then declined throughout the remainder of the month. Levels in consolidated aquifers were rather stable or rose steadily throughout the month.

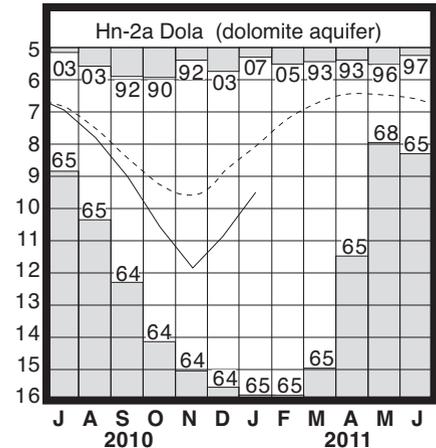
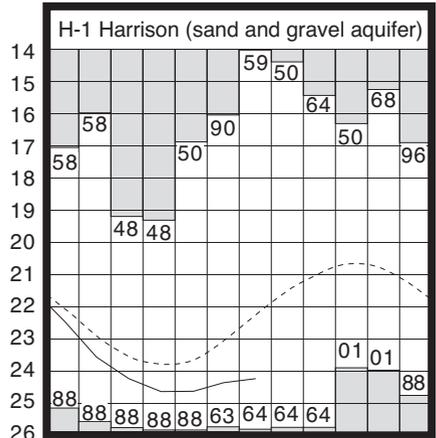
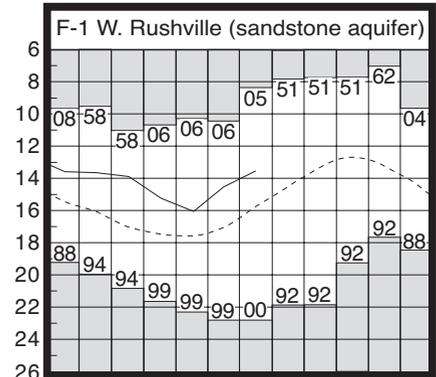
The 2011 water year recharge season through the end of January has not been particularly favorable for improving ground water storage in the state. Below normal precipitation during the past 2 months and frozen soils during most of January limited recharge throughout Ohio. Ground water levels remain below normal across most of the state with only a few consolidated aquifers in eastern Ohio continuing to be above normal. Also, current levels are lower than they were a year ago in most aquifers, but are higher in some aquifers in northern Ohio. In spite of being at below normal levels throughout most of the state, ground water supplies are adequate statewide. Near normal precipitation and other climatic conditions during the next few months should provide ample opportunity for recharge to Ohio's ground water supplies.

LAKE ERIE level declined during January. The mean level was 570.31 feet (IGLD-1985), 0.10 foot lower than last month's mean level and 0.56 foot below normal. This month's mean level is 0.52 foot lower than the January 2010 level and 1.11 feet above Low Water Datum.

The U.S. Army Corps of Engineers (USACE) reports that precipitation in the Lake Erie basin during January averaged 2.04 inches, 0.46 inch below normal. For the entire Great Lakes basin, January precipitation averaged 1.63 inches, 0.58 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 2 inches above to as much as 16 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	13.52	+2.27	+1.00	-1.38
Fa-1	Jasper Mill, Fayette Co.	Limestone	9.93	-2.41	+1.53	-1.45
Fr-10	Columbus, Franklin Co.	Gravel	44.93	-1.59	+0.18	-0.25
H-1	Harrison, Hamilton Co.	Gravel	24.23	-2.00	+0.13	-1.45
Hn-2a	Dola, Hardin Co.	Dolomite	9.50	-1.42	+1.39	+2.54
Po-124	Freedom, Portage Co.	Sandstone	77.62	+0.70	+0.11	-0.96
Tu-1	Strasburg, Tuscarawas Co.	Gravel	14.68	-1.56	-0.14	+1.45

GROUND-WATER LEVELS

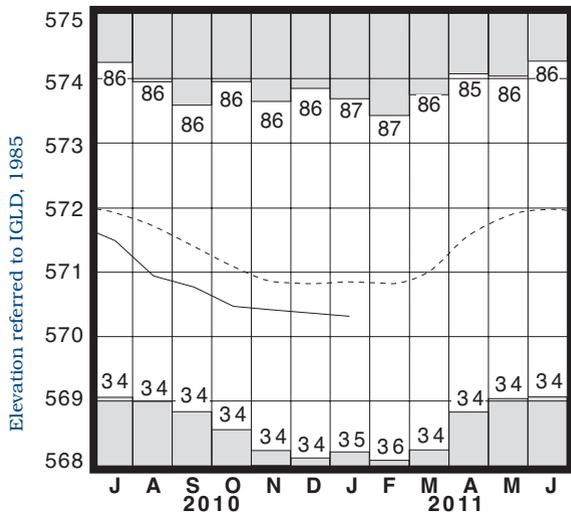


Water level (ft below land surface)

Base periods: F-1, 1947-2000 H-1, 1951-2000.

Hn-2a, 1955-2000 ■ Record high and low, year of occurrence

LAKE ERIE LEVELS



Base period: 1918-2000

■ Record high and low, year of occurrence

Normal - - - - Current ———

The 2011 calendar year is not off to a very good start as far as precipitation is concerned. However, several months remain with the potential for recharge. Near-normal precipitation during the next several months should provide adequate opportunity for replenishing the state's water supplies.

SUMMARY

Precipitation during January was below normal throughout Ohio. Streamflow was below normal statewide and low enough to be considered deficient in many basins. Reservoir storage decreased slightly in the Mahoning River basin and increased slightly in the Scioto River basin. Month-end storage remained above normal in the Mahoning River basin and below normal in the Scioto river basin. Ground water storage increased throughout most of the state, but remains below normal across much of Ohio. Lake Erie level declined 0.10 foot and was 0.56 foot below the long-term January average.

NOTES AND COMMENTS

New Director at ODNR

David Mustine was appointed by Governor John Kasich as the new director of the Ohio Department of Natural Resources (ODNR), effective January 10, 2011. He is the 12th person to serve as director since the department was formed in 1949. Mr. Mustine follows Sean D. Logan, who served as director from January 2007 to January 2011.

Director Mustine has spent much of his career in the oil and gas industry. He was an investment manager for the Energy Division of Bechtel Investments, Inc. in Houston, TX, specializing in oil and gas joint ventures. In 1986, he began working for American Electric Power (AEP) in its corporate financial planning group. He worked for AEP for more than 15 years, eventually becoming senior Vice President of Business Planning and Services. For the past eight years, Director Mustine owned his own company, providing consulting services to business owners, corporations, ministries and non-profits.

Director Mustine attended The Ohio State University, where he received a Bachelor of Science degree. He received his Masters degree in Business Administration from DePaul University and a Master of Arts degree from Ashland Theological Seminary. He also completed coursework at Harvard University. Director Mustine is a native of Washington Courthouse in southwest Ohio and currently resides in Franklin County.

Division of Soil and Water Resources has New Leadership

ODNR Director David Mustine appointed Ted Lozier on January 10, 2011 as acting Chief of the Division of Soil and Water Resources, and the Division of Recycling and Litter Prevention.

Mr. Lozier began his career at ODNR in 1984 inspecting dams for the Division of Water in the Dam Safety Section. In 1989, Ted left ODNR for the private sector, working for two major oil companies and a consulting firm. In 1991, he returned to ODNR's Division of Water as Program Manager for the Dam Safety Section. In 1998, Ted became the administrator of the Water Resources Section, and in 2009 was named Deputy Chief of the Division of Soil and Water Resources.

Mr. Lozier is a registered professional engineer in Ohio. He attended The Ohio State University where he earned a Bachelor of Science degree in Civil Engineering and a Masters degree in Business Administration.

Ted is a native of Stark County. He currently lives in Delaware County with his wife and two children.

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.



An Equal Opportunity Employer—M/F/H

2011

Ohio Department of Natural Resources

Division of Soil and Water Resources

2045 Morse Road

Columbus, Ohio 43229-6693

John Kasich
Governor

David Mustine
Director

Ted Lozier
Acting Chief

Printed on recycled
paper containing 30%
post consumer waste.

