MONTHLY WATER INVENTORY REPORT FOR OHIO

January 2012

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

Compiled By Scott C. Kirk

Hydrologist

Water Inventory Unit

PRECIPITATION during January was above normal throughout most of the state, but below normal in portions of northwestern and south-central Ohio. The average for the state was 3.47 inches, 0.91 inch above normal. Regional averages ranged from 4.62 inches, 1.76 inches above normal, for the Southwest Region to 2.66 inches, 0.62 inch above normal, for the Northwest Region. Miamitown (Hamilton County) reported the greatest amount of January precipitation, 6.25 inches. Paulding (Paulding County) reported the least amount, 1.81 inches.

Precipitation during January fell as rain, snow and a wintry mix. Snowfall across most of the state was below normal, but was near or above normal in the northeastern quarter of Ohio. The first 10 days of the month were rather dry across the state. The only notable precipitation during this period occurred around January 1-3 when snow fell across northeastern Ohio with accumulations of 2-8 inches. Wet weather prevailed during the next 19 days. Many locations reported measurable precipitation on most of the days during this period, but only a few days had significant amounts of precipitation. Precipitation during January 11-14 began as rain and ended as snow. Amounts ranged from 0.25 inch in northwestern Ohio to around 1 inch in southeastern Ohio. Snow amounts during this period ranged from 1-3 inches across most of the state to 3-6 inches in northeastern Ohio. Showers and a few thunderstorms crossed the state during January 16-17. Most of Ohio received at least 0.25 inch of precipitation with 1-2 inches reported in areas of northwestern and southern Ohio. The heaviest and most widespread precipitation for the month fell during January 26-27 with much of the state reporting at least 1 inch of rain. The greatest amounts were reported in areas of west-central and southwestern Ohio where more than 2 inches fell, while areas in extreme northwestern and south-central Ohio received less than 0.5 inch.

Precipitation for the 2012 water year is above normal statewide. The state average is 17.74 inches, 6.55 inches above normal. Regional averages range from 20.84 inches, 8.75 inches above normal, for the Southwest Region to 16.25 inches, 4.50 inches above normal, for the South Central Region. The above normal precipitation during the first four months of the 2012 water year has been beneficial in recharging the state's ground water supplies.

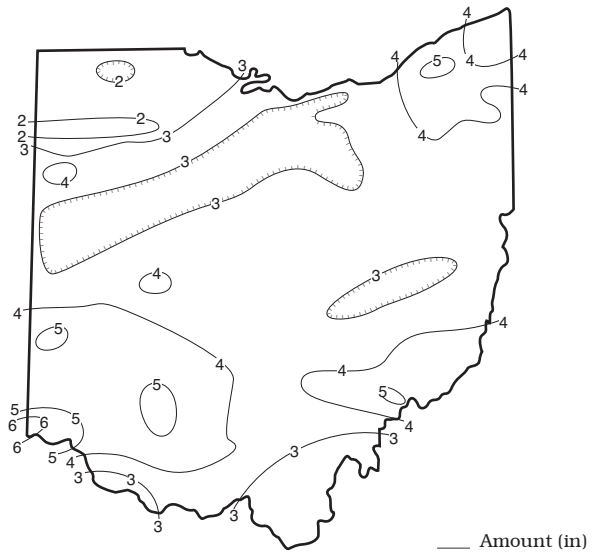
The 2012 calendar year is off to a good start as far as precipitation is concerned. Continued near-normal precipitation and other climatic conditions during the next few months will benefit water supplies in Ohio.

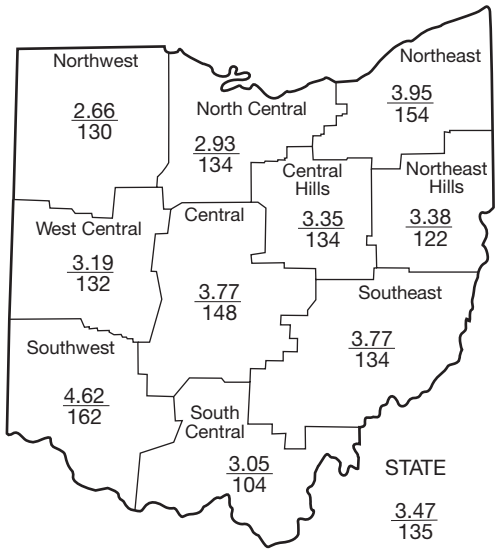
PRECIPITATION

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	+0.62	+5.38	+11.74	+18.74	+17.36	+5.4
North Central	+0.75	+4.54	+10.65	+21.28	+21.61	+7.0
Northeast	+1.39	+4.25	+11.67	+23.19	+22.78	+6.1
West Central	+0.78	+5.84	+11.11	+20.08	+17.15	+5.2
Central	+1.23	+5.56	+9.25	+19.36	+16.29	+4.2
Central Hills	+0.85	+4.81	+9.43	+17.19	+14.71	+4.4
Northeast Hills	+0.62	+3.23	+8.09	+17.23	+15.18	+2.9
Southwest	+1.76	+8.07	+11.67	+22.30	+16.28	+4.9
South Central	+0.13	+2.54	+6.77	+19.55	+20.19	+4.1
Southeast	+0.96	+3.15	+8.37	+17.64	+14.95	+4.6
State	+0.91	+4.73	+9.86	+19.64	+17.65	

*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 JANUARY





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	2278	176	159	197	190
Great Miami River at Hamilton	3,630	10,930	270	297	255	242
Huron River at Milan	371	940	199	247	235	257
Killbuck Creek at Killbuck	464	1,116	221	241	211	184
Little Beaver Creek near East Liverpool	496	1,189	209	159	140	154
Maumee River at Waterville	6,330	11,610	231	271	252	205
Muskingum River at McConnelsville	7,422	16,340	199	197	170	154
Scioto River near Prospect	567	1,431	319	312	372	289
Scioto River at Higby	5,131	12,440	210	257	236	221
Stillwater River at Pleasant Hill	503	1,086	249	249	203	205

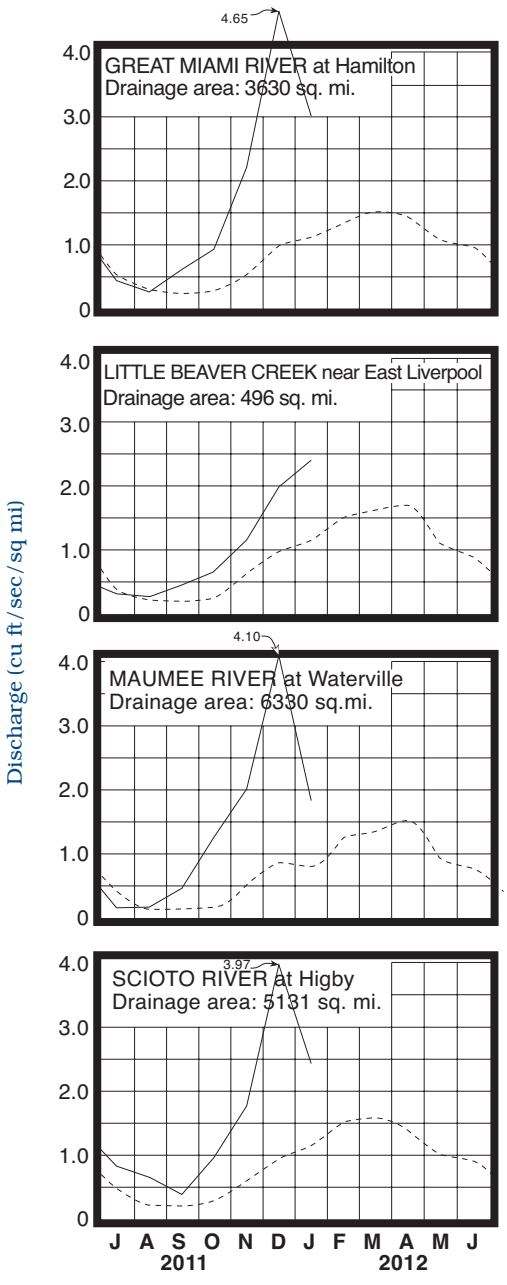
STREAMFLOW during January was above normal throughout Ohio. Flows were high enough to be considered excessive statewide. January flows were less than the flows recorded during December across most of the state.

Flows at the beginning of the month were above normal statewide. Flows generally declined during the first half of January. Lowest flows for the month occurred around January 11 in eastern Ohio and January 15-16 in western Ohio. In spite of the lack of precipitation during the first 10 days of the month, flows remained above normal throughout most of the state. Flows increased during the second half of the month as widespread precipitation fell on several days. Minor flooding occurred across several areas of the state following the January 17 precipitation. More minor flooding was reported following widespread precipitation that fell during January 25-27. Most drainage basins had their greatest flows for January during the last few days of the month following this widespread precipitation. Streamflow at the end of the month remained well above normal throughout Ohio.

RESERVOIR STORAGE for water supply during January increased in both the Mahoning and Scioto river basins. Storage at the end of the month remained above normal in both basins.

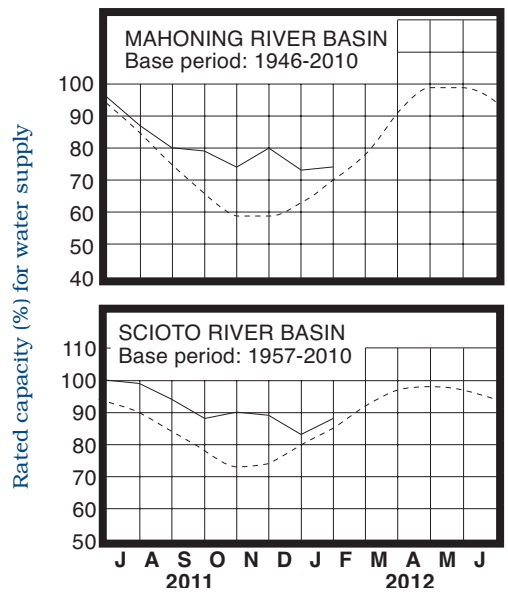
Reservoir storage in the Mahoning basin index reservoirs was 74 percent of rated capacity for water supply compared with 73 percent for last month and 72 percent for January 2011. Month-end storage in the Scioto basin index reservoirs was 88 percent of rated capacity for water supply compared with 83 percent for last month and 75 percent for January 2011. Surface water supplies remain in excellent condition across the state.

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	10.64	+4.85	+0.45	+2.88
Fa-1	Jasper Mill, Fayette Co.	Limestone	7.44	+0.54	-0.25	+2.49
Fr-10	Columbus, Franklin Co.	Gravel	42.41	+1.55	+0.62	+2.52
H-1	Harrison, Hamilton Co.	Gravel	20.71	+1.41	-0.61	+3.52
Hn-2a	Dola, Hardin Co.	Dolomite	6.22	+2.35	-0.25	+3.28
Po-124	Freedom, Portage Co.	Sandstone	75.80	+1.02	+0.47	+1.82
Tu-1	Strasburg, Tuscarawas Co.	Gravel	11.68	+1.50	+0.24	+3.00

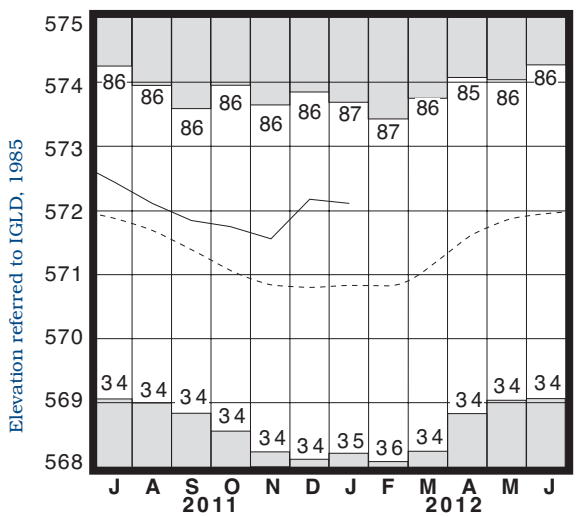
GROUND WATER levels during January showed mixed responses. Ground water levels across most of western Ohio declined for the month while levels in most of eastern Ohio rose during January. Levels in most aquifers throughout the state were rather stable or declining during the first half of the month and then rose during the second half in response to the increase in precipitation. Net changes from December's levels were less than usually observed in most aquifers.

Ground water supplies remain above normal statewide with levels ranging from 0.5 foot to about 5 feet above normal. Observation well PO-124 (Portage County), representing sandstone aquifers in eastern and north-eastern Ohio, reached a record-high level for January. Current levels are also higher than they were at this time last year throughout the state, generally ranging between 2 and 3.5 feet above the January 2011 levels. At the end of January, ground water storage is in a favorable position throughout Ohio. With near-normal precipitation and other climatic conditions during the next few months, ground water supplies should continue to maintain their favorable position.

LAKE ERIE level declined during January. The mean level was 572.11 feet (IGLD-1985), 0.07 foot lower than last month's mean level and 1.28 feet above normal. This month's mean level is 1.80 feet above the January 2011 level and 2.91 feet above Low Water Datum.

The U.S. Army Corps of Engineers (USACE) reports that precipitation in the Lake Erie basin during January averaged 3.26 inches, 0.76 inches above normal. For the entire Great Lakes basin, January precipitation averaged 2.60 inches, 0.39 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 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 15 inches above normal to about 8 inches below the normal seasonal average.

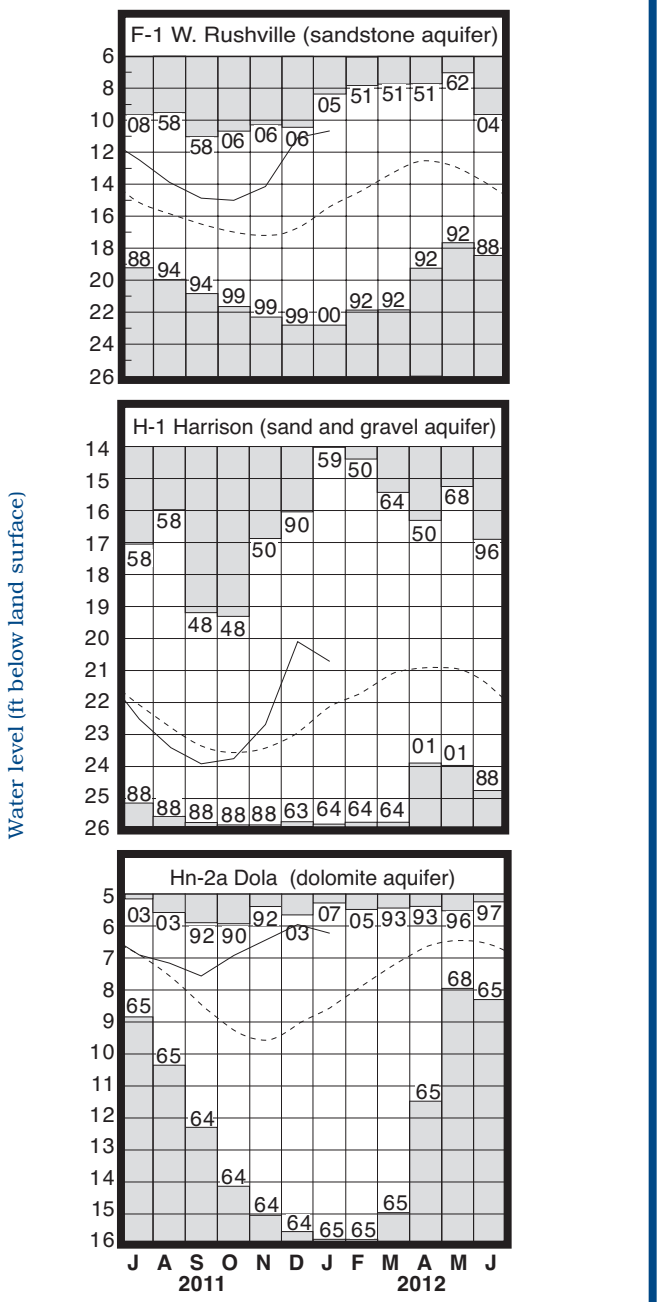
LAKE ERIE LEVELS



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 ———

SUMMARY

Precipitation during January was above normal across most of the state. Streamflow was above normal and high enough to be considered excessive statewide. Reservoir storage increased and was above normal in both the Mahoning and Scioto river basins. Ground water storage remained above normal throughout Ohio. Lake Erie level declined 0.07 foot and was 1.28 feet above the long-term January average.

NOTES AND COMMENTS

Division of Soil and Water Resources has New Leadership

On December 28 2011, ODNR Director James Zehringer announced the appointment of Karl Gebhardt as Chief of the Division of Soil and Water Resources, and the Division of Recycling and Litter Prevention. Mr. Gebhardt brings an extensive background in natural resources management and policy development to the division. Karl was one of the first employees of the ODNR Division of Natural Areas and Preserves, and later became a legislative liaison for then-Director Bob Teater. He left ODNR to work for the Ohio Farm Bureau where he eventually became Director of Local Affairs. Karl then served as the Executive Director for the Office of Farmland Preservation. He also has experience in the private sector, including ownership for 12 years of Gebhardt & Associates and as Senior Vice President with Paul Werth Associates. Karl has worked with a variety of professional organizations and advisory councils including: The Ohio State University Rural-Urban Policy Advisory Council, the Natural Resource Conservation State Technical Committee, the Ohio Chamber of Commerce Environmental Advisory Committee, the National Advisory Board of the University of Findlay's National Center of Excellence for Environmental Management and the Ohio Soil and Water Conservation Delivery Task Force. He also is Township Trustee in Genoa Township, Delaware County.

Mr. Gebhardt earned an M.A. in Public Policy and Management from The Ohio State University, a B.S. in Business Administration from Franklin University and an A.S.S. in Natural Resources from Hocking College. Karl replaces Ted Lozier, who will continue to serve in the Division as Deputy Chief.

The Division of Soil and Water Resources staff welcomes Karl to his new position. We all look forward to working with him.

Water Resources Data For Ohio Available On-Line

The Water Resources Division of the U.S. Geological Survey (USGS) recently announced the availability of the following report:

Water Resources Data For The United States, Water Year 2010.

This report contains data from cooperative long-term surface water and ground water networks as well as data collected as part of special short-term projects. Beginning with the 2006 annual report, paper reports are no longer produced. The USGS annual Water Data Report is part of a national web-based product with a "Site Data Sheet" available for each individual station that can be viewed and/or downloaded. Site Data Sheets contain all surface-water, ground-water and/or water-quality data that were collected at a particular site in a given water year. All Site Data Sheets for water year 2010 in Ohio have been completed and are available at: http://wdr.water.usgs.gov/wy2010/search.jsp. Connecting to this web site will take you directly to the Site Data Sheet search page. Site Data Sheets are indexed by USGS station number and physical location, which includes state, county and hydrologic unit. If you have any questions or comments, please contact James Mangus with the USGS at (614) 430-7727 or e-mail: jpmangus@usgs.gov. Water Resources Data-Ohio reports for water year 2002-2009 can also be accessed online at: http://wdr.water.usgs.gov/.

New Normals For Monthly Water Inventory Report

Beginning with this report, a new base period is being used to determine the long-term averages for each hydrologic category presented in this report. The updated averages are now calculated with data compiled through 2010. All changes are reflected in the graphs and tables used in this report. The specific base period used for each individual hydrologic category is listed with its associated graph or table.

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.

Ohio Department of Natural Resources
Division of Soil and Water Resources
2045 Morse Road
Columbus, Ohio 43229-6693