



MONTHLY WATER INVENTORY REPORT FOR OHIO

January 2004

<http://www.dnr.state.oh.us/water/pubs/newsltrs/mwirmain.html>

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PRECIPITATION during January was above normal across most of the state, but below normal in northwestern Ohio. The average for the state as a whole was 3.76 inches, 1.19 inches above normal. Regional averages ranged from 5.08 inches, 2.15 inches above normal, for the Southwest Region to 1.88 inches, 0.16 inch below normal, for the Northwest Region. This was the 11th wettest January during the past 110 years for the Central Region, the 13th wettest for the Northeast Hills Region and the 15th wettest for both the Southwest and Southeast regions. Lancaster (Fairfield County) reported the greatest amount of January precipitation, 8.05 inches. Sandusky (Erie County) reported the least amount, 1.04 inches.

Precipitation during January fell as both rain and snow and occurred during every week of the month. Many locations reported measurable precipitation on about half of the days in January, but only a few days had noteworthy amounts of precipitation. The most significant precipitation for the month fell during the first 4 days. Light rain on January 1-2 fell in advance of a slow-moving cold front that brought moderate with occasionally heavier rain on January 3-4. Precipitation amounts during this 4-day period ranged from 2-5 inches throughout most of the state, except in northwestern and extreme northeastern Ohio where 0.50-1.0 inch was reported. The greatest amounts of precipitation fell across the mid-section of the state, where moderate flooding was widespread (see *January Floods Result In Presidential Disaster Declaration* under Notes and Comments Section on the last page of this report). Much drier conditions prevailed during the next 2 weeks in most areas of the state. However, heavy lake-effect snow fell across northeastern Ohio on January 15-16 and a wintry mix of precipitation brought 0.25-0.50 inch of precipitation (liquid, melted) to nearly all but extreme northern Ohio on January 17-18. During the last week of the month precipitation occurred on several days, generally falling as snow and/or mixed precipitation. Amounts of precipitation through this period were generally around 0.5-1.0 inch (liquid, melted) across most of the state. Several inches of snow were reported across the state during the last week of January, including 12 inches or more in Ohio's snowbelt counties on January 28-29. For the month, snowfall was generally near or above normal across most of the state. Chardon (Geauga County), located in the heart of Ohio's snowbelt, reported 51.5 inches of snow for the month, which is about 195 percent of normal.

The 2004 calendar year is off to a good start across most of the state as far as precipitation is concerned. Continued near-normal precipitation during the next several months will be favorable for water supplies in Ohio.

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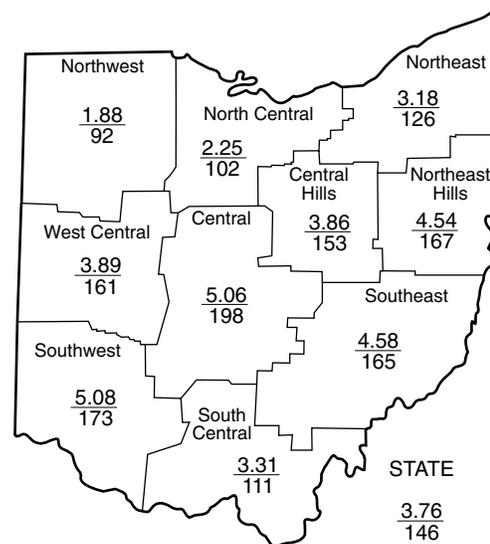
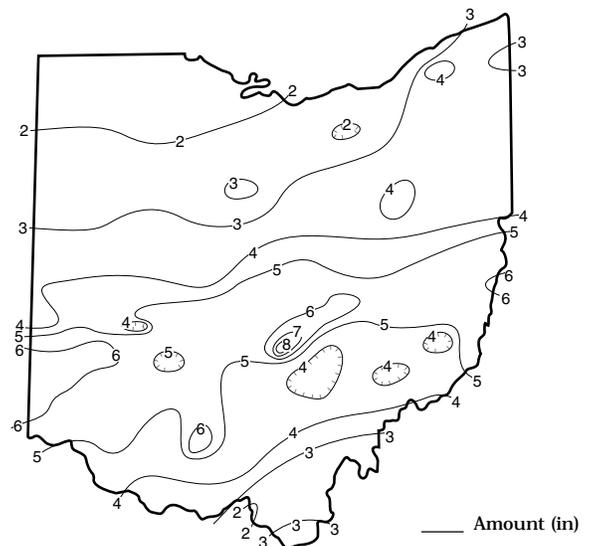
PRECIPITATION

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	-0.16	-0.29	+4.19	+7.97	+3.40	+3.4
North Central	+0.04	+1.12	+4.04	+7.75	+6.98	+3.6
Northeast	+0.66	+0.97	+3.54	+11.39	+10.82	+4.1
West Central	+1.47	+2.47	+9.17	+15.74	+15.50	+4.9
Central	+2.51	+2.89	+8.43	+10.75	+11.37	+4.2
Central Hills	+1.34	+1.10	+6.19	+8.17	+6.43	+3.2
Northeast Hills	+1.82	+1.79	+7.73	+11.56	+9.06	+4.1
Southwest	+2.15	+1.85	+5.44	+8.85	+13.22	+4.2
South Central	+0.33	+2.85	+6.06	+12.05	+15.58	+4.0
Southeast	+1.80	+3.56	+8.75	+11.91	+13.00	+4.6
State	+1.19	+1.85	+6.33	+10.57	+10.47	

*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



Average (in)
Percent of normal

MEAN STREAM DISCHARGE

River and Location	Drainage Area (Sq. Mi.)	This Month			% of Normal Past		
		Mean Discharge (CFS)	% of Normal	3 Mos.	6 Mos.	12 Mos.	
Grand River near Painesville	685	1,713	113	115	134	157	
Great Miami River at Hamilton	3,630	10,800	270	214	251	175	
Huron River at Milan	371	844	196	212	207	188	
Killbuck Creek at Killbuck	464	917	175	150	200	144	
Little Beaver Creek near East Liverpool	496	1,371	233	180	256	160	
Maumee River at Waterville	6,330	6,931	142	133	187	151	
Muskingum River at McConnelville	7,422	22,080	239	271	337	123	
Scioto River near Prospect	567	1,211	241	224	289	192	
Scioto River at Higby	5,131	15,590	246	190	223	153	
Stillwater River at Pleasant Hill	503	1,172	261	211	275	164	

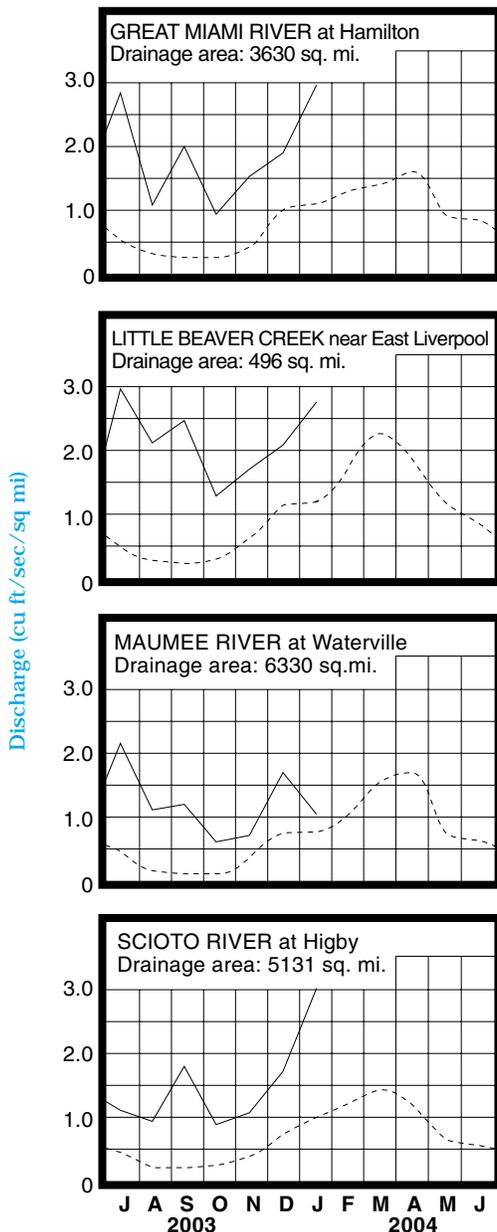
STREAMFLOW during January was above normal statewide. Flows were high enough to be considered excessive throughout most of Ohio. Flows during January increased seasonally from the December flows across much of the state, but generally declined across the northern third of Ohio.

Flows at the beginning of January were above normal throughout the state. Flows rose rapidly following widespread precipitation that fell during the first 4 days of the month. Greatest flows for the month occurred during January 5-6 statewide. Widespread flooding occurred during this period across the central two-thirds of the state, closing many roads and damaging several dwellings. After peaking, flows declined as colder, drier conditions prevailed during much of the remainder of the month. However, temporary increases were noted following precipitation and snowmelt during January 26-27. Low flows for the month generally occurred during January 21-25 in northern Ohio and on January 31 in southern Ohio. With the colder temperatures and little runoff entering streams at the end of January, flows had declined to below normal across most of the state, but remained above normal in some northeastern Ohio basins.

RESERVOIR STORAGE during January decreased in both the Mahoning and Scioto river basins. Storage remained above normal in both basins.

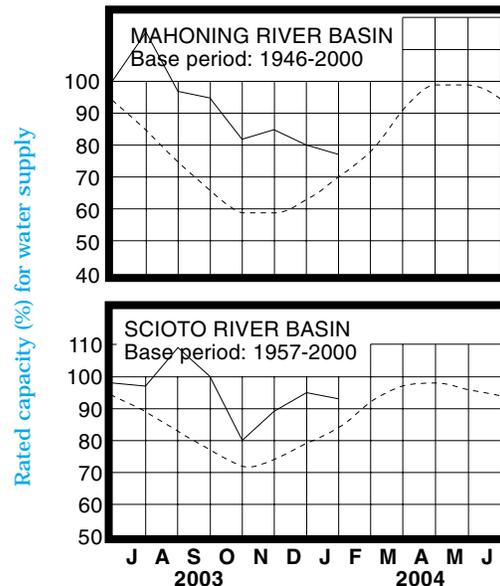
Reservoir storage at the end of December in the Mahoning basin index reservoirs was 77 percent of rated capacity for water supply compared with 80 percent for last month and 73 percent for January 2003. Month-end storage in the Scioto basin index reservoirs was 93 percent of rated capacity for water supply compared with 95 percent for last month and 86 percent for January 2003.

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 rose seasonally across most of the state. Net improvement to ground water storage was greater than normally expected during January throughout most of Ohio. Generally, levels rose in aquifers during the first half of the month and declined during the second half.

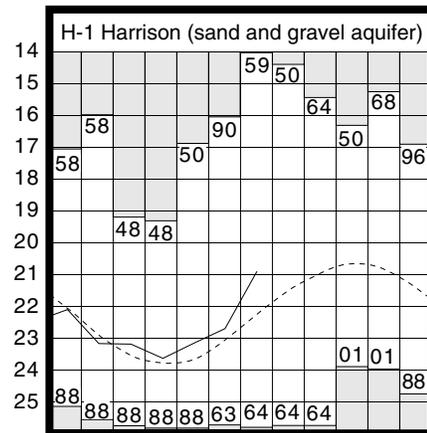
Ground water levels remain above normal across most of the state. Observation well HN-2A (Hardin County), representing the carbonate aquifers of northwestern Ohio, reached a record-high level for January early in the month. Current levels are also higher than they were a year ago statewide. The first half of January was beneficial for ground water supplies as above normal amounts of rain that fell during the first week of the month provided abundant recharge. The second half was less favorable as colder temperatures and drier conditions prevailed with most of the precipitation falling as snow or ice. However, with some of this precipitation still on the ground at month's end, the prospects for important recharge remain favorable.

LAKE ERIE level rose during January. The mean level was 570.70 feet (IGLD-1985), 0.16 foot higher than last month's mean level and 0.17 foot below normal. This month's mean level is 0.39 foot higher than the January 2003 level and 1.50 feet above Low Water Datum.

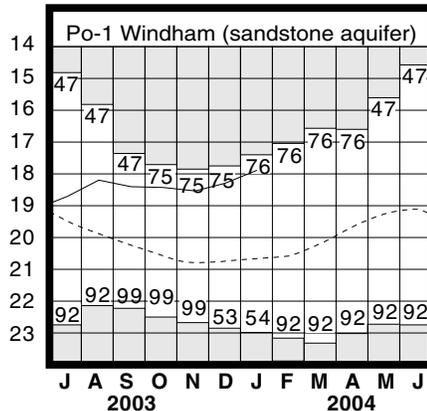
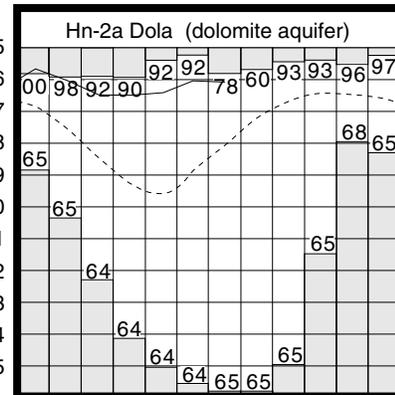
The U.S. Army Corps of Engineers (USACE) reports that precipitation in the Lake Erie basin during January averaged 2.39 inches, 0.05 inch below normal, while the entire Great Lakes basin averaged 2.05 inches, 0.12 inch below normal. In addition, the USACE predicts that based on the current condition of the Great Lakes basin and anticipated weather conditions, the level of Lake Erie should range between 4-8 inches below the long-term seasonal average for the foreseeable future. Deviations from the anticipated weather patterns could result in the level of Lake Erie ranging from near normal to as much as 18 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	10.61	+5.18	+1.62	+3.94
Fa-1	Jasper Mill, Fayette Co.	Limestone	7.63	-0.11	+0.03	+0.38
Fr-10	Columbus, Franklin Co.	Gravel	44.35	-1.01	+0.66	+0.98
H-1	Harrison, Hamilton Co.	Gravel	20.90	+1.33	+1.80	+1.60
Hn-2a	Dola, Hardin Co.	Dolomite	6.08	+2.00	-0.04	+4.25
Po-1	Windham, Portage Co.	Sandstone	17.89	+2.78	+0.35	+3.26
Tu-1	Strasburg, Tuscarawas Co.	Gravel	11.61	+1.51	+1.11	+4.01

GROUND-WATER LEVELS

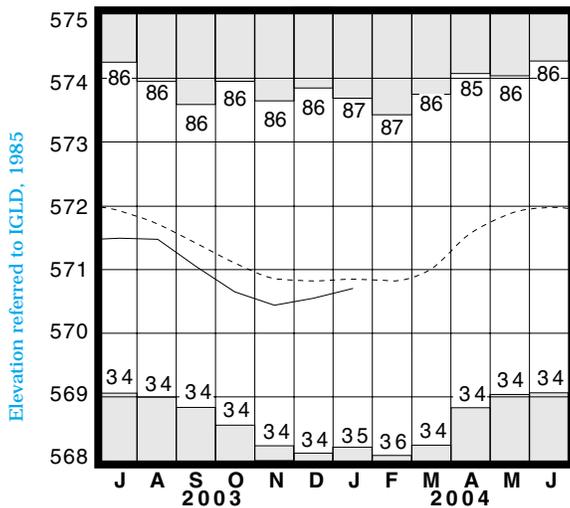


Water level (ft below land surface)



Base periods: H-1, 1951-2000. Hn-2a, 1955-2000.
Po-1, 1947-2000 Record high and low, year of occurrence

LAKE ERIE LEVELS



Base period: 1918-2000

Record high and low, year of occurrence

Normal - - - - Current ———

(Precipitation continued from front)

Precipitation for the 2004 water year is above normal across most of Ohio, but below normal in northwestern Ohio. The average for the state as a whole is 12.73 inches, 1.95 inches above normal. Regional averages range from 14.96 inches, 3.90 inches above normal, for the Southeast Region to 9.24 inches, 0.39 inch below normal, for the Northwest Region.

SUMMARY

Precipitation during January was above normal across most of the state, but below normal in northwestern Ohio. Streamflow was above normal statewide and was high enough to be considered excessive across most of Ohio. Reservoir storage decreased in both the Mahoning and Scioto river basins, but remained above normal in both basins. Ground water levels rose seasonally in most aquifers and are above normal throughout most of the state. Lake Erie level rose 0.16 foot and was 0.17 foot below the long-term January average.

NOTES AND COMMENTS

January Floods Result In Presidential Disaster Declaration

At the request of Governor Bob Taft, President Bush issued a Presidential Disaster Declaration for parts of Ohio as a result of the flooding that took place early in January, making flood victims eligible for federal and state assistance. This assistance includes low interest loans, grants and funding for projects that reduce future disaster risks. The declaration includes Athens, Belmont, Franklin, Guernsey, Harrison, Jefferson, Licking, Monroe, Morgan, Noble, Perry, Ross, Tuscarawas and Washington counties.

A slow-moving cold front crossed the state on January 3-4, bringing with it moderate and locally heavy rainfall. The rain fell on saturated ground, resulting in high runoff rates. The brunt of the storm was in the mid-section of the state where generally 2 to as much as 5 inches of rain were reported. The hardest hit area was generally along and south of Interstate 70. Urban and stream flooding caused several road closures and flooded numerous homes and businesses. At one point, more than 70 roads were closed due to the flooding in the impacted area, including a portion of Interstate 70 in Licking County. Several people were evacuated from homes or businesses. Cold temperatures complicated matters, turning any standing water into ice. In some of the flooded areas, ice remained on the ground throughout the remainder of the month. Flood damages and impacts from this event are still being assessed at this time.

Water Withdrawal Facilities Registration Program

The Water Withdrawal Facilities Registration Program (WWFRP) has been transferred from the Water Inventory Unit to the Water Planning and Development Unit within the Division of Water. Lenn Black of the Water Planning and Development Unit will be coordinating the duties associated with this program. Beginning January 17th the program will also have a new web address, <http://www.dnr.state.oh.us/water/wwfr>. Questions regarding the WWFRP should be directed to Lenn at (614) 265-6758 or Mike Hallfrisch, Supervisor of the Water Planning and Development Unit, at (614) 265-6745. You can also e-mail Lenn at: leonard.black@dnr.state.oh.us. Jason Remich, who formerly worked with the WWFRP, recently left the Division of Water to accept a position with the Adjutant General's Office.

ACKNOWLEDGMENTS

This report has been compiled from Division of Water 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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