MONTHLY WATER INVENTORY REPORT FOR OHIO

February 2007

http://www.dnr.state.oh.us/water/pubs/newsltrs/mwirmain.htm

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PRECIPITATION during February was generally above normal in southern Ohio and below normal in northern Ohio. The state average was 2.21 inches, 0.05 inch below normal. Regional averages ranged from 3.39 inches, 0.75 inch above normal, for the Southwest Region to 1.07 inches, 0.77 inch below normal, for the Northwest Region. Cincinnati Fernbank (Hamilton County) reported the greatest amount of February precipitation, 4.63 inches. Hicksville (Defiance County) and Findlay Water Pollution Control Center (Hancock County) both reported the least amount, 0.60 inch.

Precipitation during February fell as rain, snow and a wintry mix. Snowfall for the month was above normal across most of the state. Snow during February 6 was greatest across southern Ohio, where 4-6 inches were common, tapering to less than 1 inch in northern Ohio. A major winter storm moved through the Ohio Valley on February 13-14. Most of the precipitation fell as snow across northern Ohio with 10-18 inches reported. Lesser amounts of snow fell in southern Ohio before changing to a wintry mix, bringing a significant coating of ice on top of the snow that had already fallen. Precipitation amounts (liquid) from this storm ranged from 1.0-1.5 inches in southern Ohio to around 0.5-1.0 inch in northern Ohio. Rain on February 20 brought 0.5-1.0 inch across the southern third of the state, but lesser amounts elsewhere. Widespread precipitation during February 24-25, which began as frozen precipitation but ended as plain rain, was greatest across southern Ohio, where 0.75-1.25 inch fell tapering to around 0.25 inch in northern Ohio.

Precipitation for the 2007 water year is above normal statewide. The average for the state as a whole is 17.97 inches, 4.93 inches above normal. Regional averages range from 19.51 inches, 5.08 inches above normal, for the Southwest Region to 15.98 inches, 2.69 inches above normal, for the Northeast Hills Region.

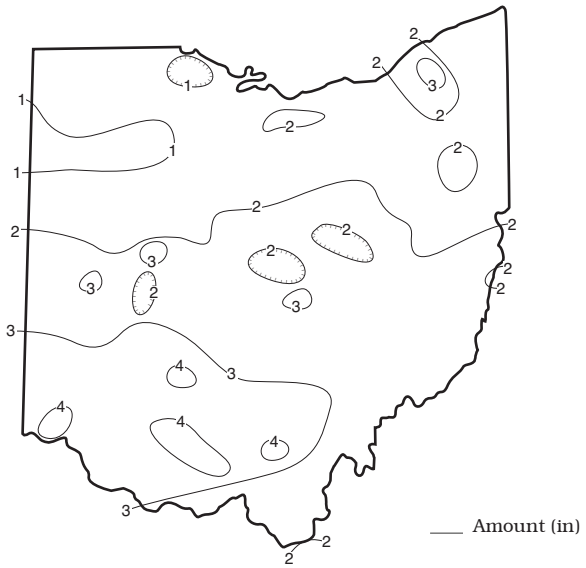
Precipitation for the 2007 calendar year is also above normal statewide. The average for the state as a whole is 6.85 inches, 2.02 inches above normal. Regional averages range from 8.33 inches, 2.76 inches above normal, for the Southwest Region to 6.06 inches, 2.18 inches above normal, for the Northwest Region.

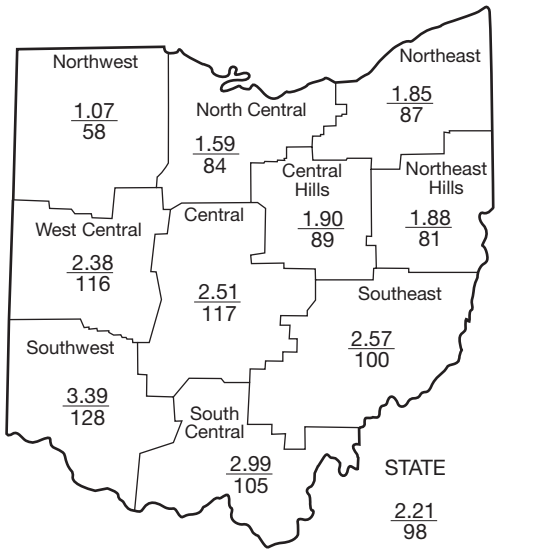
PRECIPITATION

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	-0.77	+4.06	+5.85	+7.98	+6.02	+4.3
North Central	-0.30	+4.69	+7.39	+10.15	+12.57	+5.3
Northeast	-0.27	+3.48	+6.91	+12.16	+13.05	+5.8
West Central	+0.32	+4.71	+7.16	+10.55	+11.99	+5.3
Central	+0.36	+3.06	+8.90	+9.69	+9.31	+4.1
Central Hills	-0.23	+1.73	+5.08	+6.70	+6.00	+3.4
Northeast Hills	-0.45	+0.38	+4.14	+6.14	+5.81	+2.4
Southwest	+0.75	+3.48	+7.48	+9.37	+4.41	+4.0
South Central	+0.15	-0.37	+8.28	+5.19	+0.09	+3.5
Southeast	+0.00	+0.40	+5.93	+4.46	+3.24	+3.0
State	-0.05	+2.55	+6.70	+8.22	+7.24	

*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 FEBRUARY





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	229	17	190	277	153
Great Miami River at Hamilton	3,630	4,026	85	194	204	143
Huron River at Milan	371	427	87	187	180	139
Killbuck Creek at Killbuck	464	374	54	124	132	119
Little Beaver Creek near East Liverpool	496	1,120	129	131	156	107
Maumee River at Waterville	6,330	4,655	71	212	209	130
Muskingum River at McConnelsville	7,422	7,000	58	188	224	100
Scioto River near Prospect	567	349	53	206	227	140
Scioto River at Higby	5,131	6,175	80	147	187	121
Stillwater River at Pleasant Hill	503	475	76	197	192	132

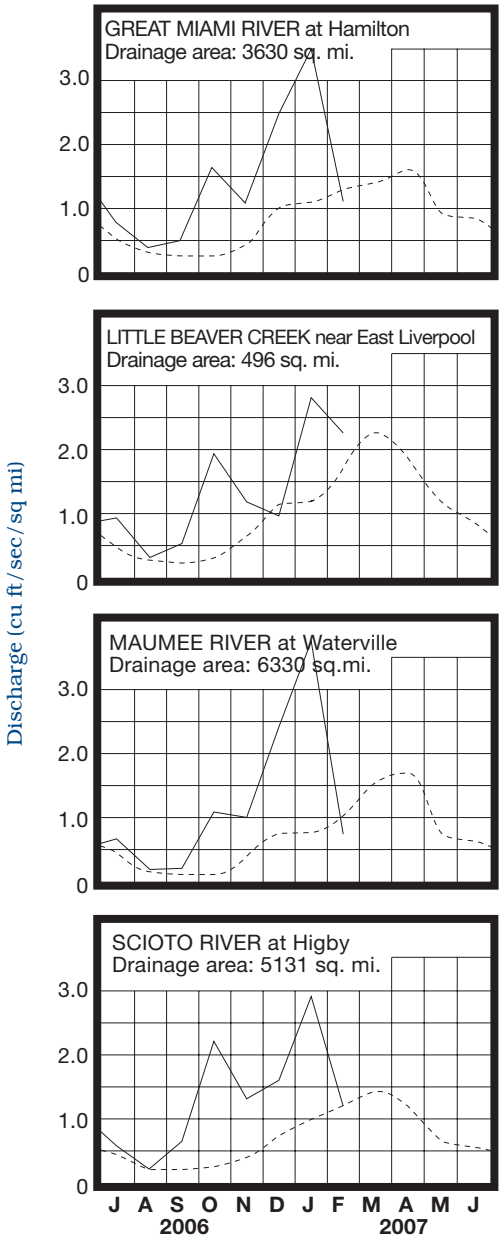
STREAMFLOW during February was below normal across most of the state. Flows were low enough to be considered deficient in many basins in the eastern half of Ohio. February flows were considerably lower than the flows recorded during January.

Flows at the beginning of the month were below normal throughout most of Ohio. Flows were rather stable during the first 3 weeks of the month, as precipitation lay frozen on the ground and ice covered many streams. Most of the low flows for the month occurred between February 11 and 19. Some streams experienced slight increases in flows following the February 13-14 precipitation. Flows increased statewide from runoff due to snowmelt and rain during February 20, and then again following the February 24-25 precipitation. Most drainage basins recorded the month's greatest flows during the last 3 days of February. Flows at the end of the month were noticeably greater than they were at the beginning of the month. Streamflow at the end of February was above normal across most of the state and was high enough to be considered excessive in some basins, especially in the southern half of the state.

RESERVOIR STORAGE during February decreased slightly in the Mahoning River basin and increased slightly in the Scioto River basin. Storage remained above normal in both basins.

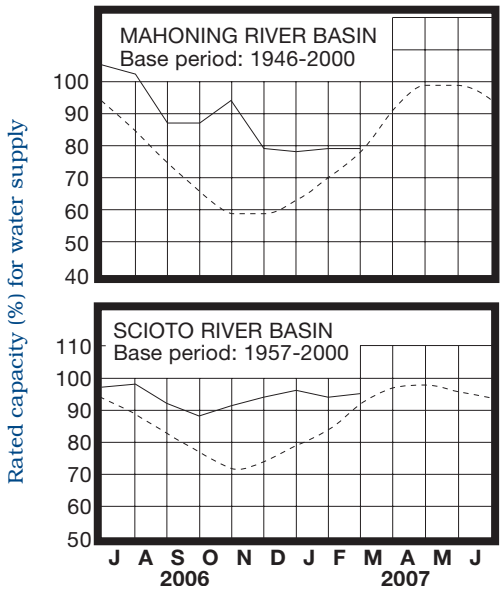
Reservoir storage at the end of February in the Mahoning basin index reservoirs was 79 percent of rated capacity for water supply compared to the same for last month and 80 percent for January 2006. Month-end storage in the Scioto basin index reservoirs was 95 percent of rated capacity for water supply compared to 94 percent for both last month and January 2006. Surface-water supplies remain in good shape throughout the state.

MEAN STREAM DISCHARGE



Base period for all streams: 1971-2000

RESERVOIR STORAGE FOR WATER SUPPLY



Normal – – – – Current ———

GROUND WATER levels during February declined contra-seasonally across most of the state. Much of the precipitation that fell during the month fell on frozen soils, resulting in more runoff instead of infiltration. Levels in most aquifers declined throughout most of the month, but began to rise near the end of the month. Some unconsolidated aquifers in the southern half of the state began to rise gradually just after the third week of February in response to rain, melting snow, and thawing soils.

Ground water supplies are in good shape across Ohio, with levels being above normal throughout most of the state. Observation well PO-1 (Portage County), representing the sandstone aquifers in eastern and northeastern Ohio, reached a record-high level for February early in the month. Also, current ground water levels remain higher than they were at this time last year across most of the state. However, February was not an exceptionally good month for recharge. In addition to frozen soils inhibiting recharge to aquifers statewide, many areas of the state experienced below normal precipitation for the month. Net improvement to ground water supplies was much less than usually observed during February. There are still a couple of months remaining with the potential for important recharge, and current conditions continue to favor improvement in ground water storage. With near-normal precipitation and other climatic conditions during the next couple of months, ground water supplies should remain in good shape across the state.

GROUND-WATER LEVELS

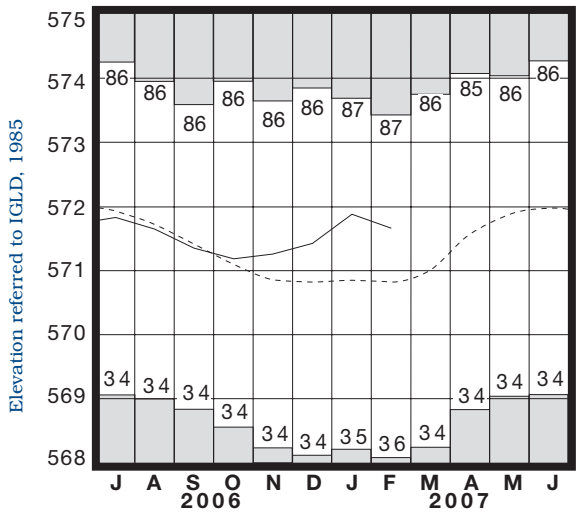
Based on daily lowest level in feet below land-surface datum

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	10.88	+3.69	-0.77	+0.31
Fa-1	Jasper Mill, Fayette Co.	Limestone	7.58	-0.41	-0.30	+0.66
Fr-10	Columbus, Franklin Co.	Gravel	43.12	-0.24	+0.44	+0.67
H-1	Harrison, Hamilton Co.	Gravel	21.46	+0.04	-1.06	+0.98
Hn-2a	Dola, Hardin Co.	Dolomite	6.40	+0.83	-0.74	-0.41
Po-1	Windham, Portage Co.	Sandstone	17.11	+3.47	-0.26	+1.77
Tu-1	Strasburg, Tuscarawas Co.	Gravel	12.35	+0.09	-0.58	+0.44

LAKE ERIE level declined during February. The mean level was 571.62 feet (IGLD-1985), 0.26 foot lower than last month's mean level and 0.79 foot above normal. This month's mean level is 0.52 foot higher than the February 2006 level and 2.42 feet above Low Water Datum.

The U.S. Army Corps of Engineers (USACE) reports that precipitation in the Lake Erie basin during February was 1.10 inches, 0.97 inch below normal. For the entire Great Lakes basin, February precipitation averaged 1.17 inches, 0.59 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 fall from its current position of 10 inches above normal to about 5 inches below normal by late summer. Deviations from the anticipated weather patterns could result in the level of Lake Erie ranging from its current position of 10 inches above to as much as 14 inches below the normal seasonal average.

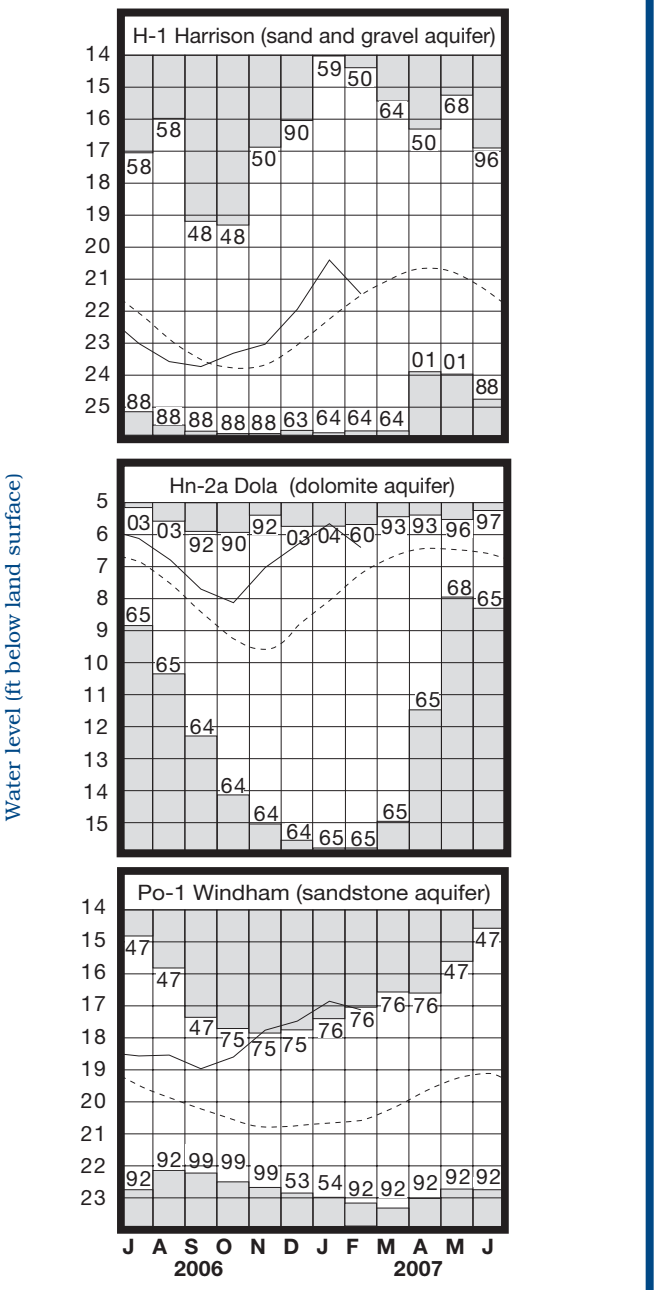
LAKE ERIE LEVELS



Base period: 1918-2000

Record high and low, year of occurrence

GROUND-WATER LEVELS



Base periods: H-1, 1951-2000. Hn-2a, 1955-2000. Po-1, 1947-2000

Record high and low, year of occurrence

Normal – – – – Current ———

SUMMARY

Precipitation during February was generally above normal in southern Ohio and below normal in northern Ohio. Streamflow was below normal across most of the state. Reservoir storage decreased slightly in the Mahoning River basin and increased slightly in the Scioto River basin. Reservoir storage remained above normal in both basins. Ground water levels declined throughout most of the state, but remained above normal across much of Ohio. Lake Erie level declined 0.26 foot and was 0.79 foot above the long-term February average.

NOTES AND COMMENTS

January 2007 Earthquake Makes Its Mark In Ohio

A major earthquake measuring 8.1 on the open-ended Richter scale occurred east of the Kuril Islands in the Pacific Ocean at 11:23 p.m. EST on January 12, 2007. The quake was centered about 330 miles east, northeast of Kuril'sk on Iturup Island of the Kuril Islands, or 1060 miles northeast of Tokyo, Japan. Shock waves radiating from the epicenter of this quake traveled 5500 miles through rock formations and reached Ohio. Seismic waves passing through rock formations cause an alternating compression and expansion of the rock. Water levels in some wells finished in certain rock formations can rise and fall with the passing of these seismic waves. Several wells in the Ohio observation well network have historically responded to earthquakes in the Western Hemisphere. Minimum Richter scale readings of 6.5 to 7.0, depending on the earthquake's location, are necessary for wells in Ohio to show any response. The most sensitive to these phenomena is observation well VW-1, located in Van Wert (Van Wert County). Seismic waves from the January 12 earthquake caused a 0.6 foot fluctuation of water level in this well. The most notable earthquake related fluctuation in VW-1 occurred on March 27, 1964, when the water level changed 5.8 feet following the Alaskan Good Friday earthquake that had a Richter scale magnitude of 8.4. The November 3, 2002 Alaskan earthquake that had a Richter scale magnitude of 7.9 caused a 1.95 feet change in water level in VW-1.

Severe Weather Safety Awareness Week

Governor Ted Strickland has issued a resolution recognizing March 25-31 as Spring Severe Weather Awareness Week for Ohio. The goal is to better educate people about the hazards of severe weather and encourage people to have a plan in the event severe weather should occur. Each year the Ohio Committee for Severe Weather Awareness (OCSWA) sponsors 2 awareness weeks to draw attention to the need to prepare for severe weather. The OCSWA consists of representatives from National Weather Service, Ohio Departments of Aging-Education-Health-Insurance-Natural Resources, Ohio Emergency Management Agency, American Red Cross, Ohio Citizens Corps, Ohio Insurance Institute, Ohio News Network, Emergency Management Association of Ohio, and the State Fire Marshal's office. A statewide tornado drill will be conducted on March 28, 2007 at 9:50 am. Communities and individuals should use this time to think about what course of action they would take in the event severe weather were to affect them and their property.

For more information, please visit the National Weather Service (Wilmington office) web page at: www.erh.noaa.gov/er/iln/.

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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