



MONTHLY WATER INVENTORY REPORT FOR OHIO

November 2006

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

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Water Inventory Unit

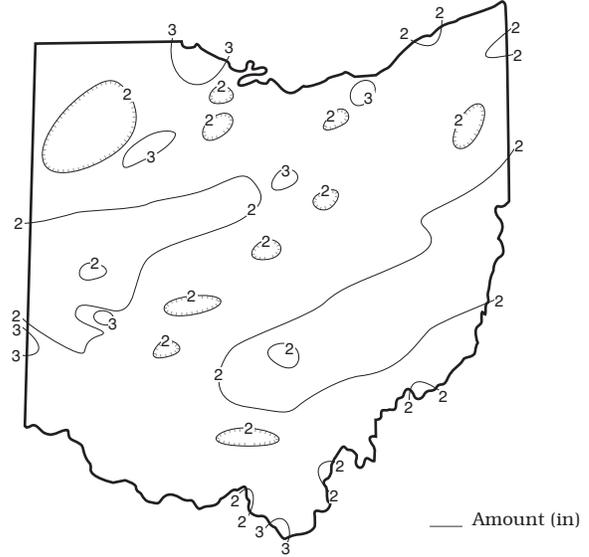
PRECIPITATION during November was below normal across most of Ohio. The state average was 2.11 inches, 0.87 inch below normal. Regional averages ranged from 2.47 inches, 0.55 inch below normal, for the Central Hills Region to 1.79 inches, 1.18 inches below normal, for the Southeast Region. Cleveland-Hopkins International Airport (Cuyahoga County) reported the greatest amount of November precipitation, 3.40 inches. Paulding (Paulding County) reported the least amount, 1.30 inches.

Precipitation during November fell mostly as rain with very little snow reported. Chardon (Geauga County), located in Ohio's snowbelt, reported 2.5 inches of snow for the month, which is about 10 inches below normal. The first half of the month was rather dry with most areas of the state receiving less than 0.5 inch of precipitation, but a few heavier showers brought nearly 1 inch to areas of northwestern Ohio. Widespread precipitation fell during November 15-16; most of the state received between 1 and 2 inches of rain. Runoff from this precipitation caused some streams to rise out of their banks, but no serious flooding was reported. The next 11 days were dry across the state with just some light showers reported. The dry weather was a welcome relief and beneficial for farmers harvesting crops. A storm system moved into the state at the end of the month with some light showers being reported in the western half of the state.

Precipitation for the 2006 calendar year is above normal statewide. The average for the state as a whole is 40.98 inches, 5.72 inches above normal. Regional averages range from 45.15 inches, 9.55 inches above normal, for the Northeast Region to 36.66 inches, 4.84 inches above normal, for the Northwest Region.

Precipitation for the 2007 water year is above normal statewide. The average for the state as a whole is 7.83 inches, 2.38 inches above normal. Regional averages range from 8.87 inches, 3.50 inches above normal, for the South Central Region to 6.73 inches, 1.60 inches above normal, for the Northwest Region.

PRECIPITATION NOVEMBER

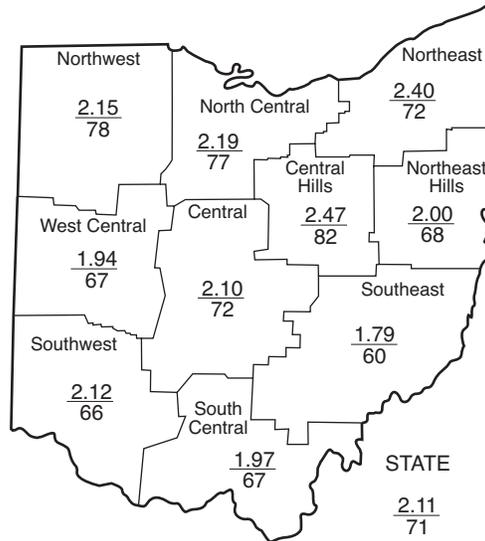


PRECIPITATION

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	-0.61	+1.93	+3.95	+5.35	+5.99	+3.5
North Central	-0.64	+2.70	+5.83	+5.32	+12.22	+5.0
Northeast	-0.94	+3.43	+9.15	+8.35	+15.87	+6.3
West Central	-0.95	+2.45	+6.12	+4.78	+14.36	+4.3
Central	-0.82	+5.83	+7.52	+5.89	+12.64	+3.3
Central Hills	-0.55	+3.35	+5.80	+4.07	+10.34	+3.1
Northeast Hills	-0.96	+3.76	+6.40	+4.43	+10.08	+2.5
Southwest	-1.09	+4.00	+5.95	+3.64	+4.43	+3.6
South Central	-0.96	+8.65	+7.77	+3.86	+1.09	+3.6
Southeast	-1.18	+5.53	+5.44	+2.76	+7.61	+2.9
State	-0.87	+4.17	+6.40	+4.84	+9.46	

*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	1,799	164	272	304	164
Great Miami River at Hamilton	3,630	3,932	242	233	164	119
Huron River at Milan	371	266	281	166	179	115
Killbuck Creek at Killbuck	464	565	198	151	188	110
Little Beaver Creek near East Liverpool	496	584	177	222	155	91
Maumee River at Waterville	6,330	6,307	241	200	132	113
Muskingum River at McConnellsville	7,422	10,360	184	328	264	91
Scioto River near Prospect	567	644	665	303	204	118
Scioto River at Higby	5,131	6,754	269	298	168	102
Stillwater River at Pleasant Hill	503	430	437	178	137	109

STREAMFLOW during November was above normal statewide. Flows were high enough to be considered excessive across most of Ohio. Streamflow during November was less than the October flows throughout much of the state.

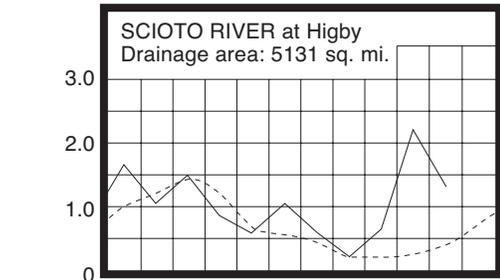
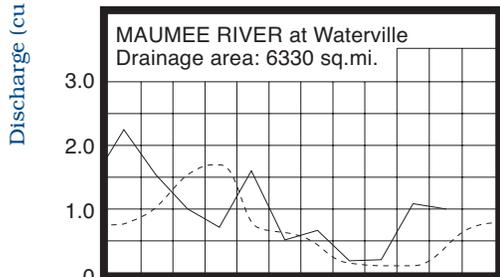
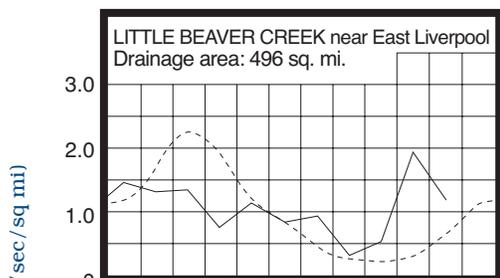
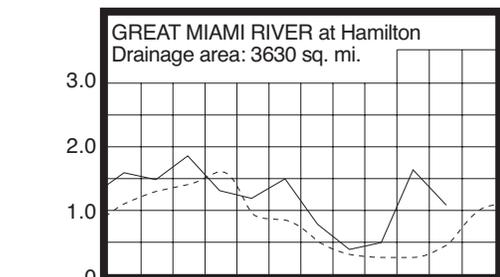
Streamflow at the beginning of November was above normal statewide. Flows generally declined during the first 2 weeks of the month and then rose just after mid-month following widespread precipitation. Greatest flows for the month occurred during November 17-18 statewide. Minor lowland flooding was observed along some streams as a result of this precipitation. Following these peaks, streamflow declined during much of the remainder

of the month. The lowest flows for November generally occurred between November 12 and 15 in eastern and southeastern Ohio, and between November 28 and 29 across much of the remainder of the state. Flows at the end of the month remained above normal across nearly all of Ohio.

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

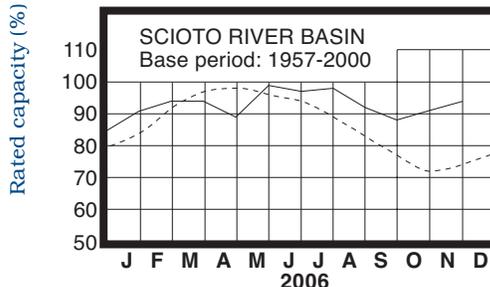
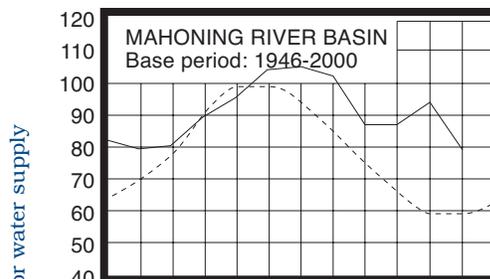
Reservoir storage at the end of November in the Mahoning basin index reservoirs was 79 percent of rated capacity for water supply, compared with 94 percent for last month and 78 percent for November 2005. Month-end storage in the Scioto basin index reservoirs was 94 percent of rated capacity for water supply, compared with 91 percent for last month and 81 percent for November 2005. Surface water supplies continue to be in good condition throughout the state.

MEAN STREAM DISCHARGE



Base period for all streams: 1971-2000

RESERVOIR STORAGE FOR WATER SUPPLY



Normal - - - - Current ———

GROUND WATER levels during November rose in most aquifers throughout the state. Net increases during November were noticeably greater than usually expected.

Ground water levels are above normal across most of the state, ranging up to 7 feet above the long-term November average. Index observation wells F-1 near West Rushville (Fairfield County), representing sandstone aquifers in eastern and southeastern Ohio, and PO-1 near Windham (Portage County), representing sandstone aquifers in eastern and northeastern Ohio, reached a record-high level for November. Current levels are also higher than they were a year ago across nearly the entire state. In spite of the below normal precipitation during November, current conditions still favor a beneficial recharge season. The Ohio Agricultural Statistics Service reports that soil moisture near the end of November was adequate in 37 percent of the state and surplus in 63 percent of the state. With near-normal precipitation and other climatic conditions during the next few months, ground water supplies should remain adequate in Ohio.

LAKE ERIE level rose during November. The mean level was 571.26 feet (IGLD-1985), 0.07 foot higher than last month's mean level and 0.39 foot above normal. This month's mean level is 0.75 foot higher than the November 2005 level and 2.06 feet above Low Water Datum.

The U.S. Army Corps of Engineers (USACE) reports that precipitation in the Lake Erie basin during November was 2.93 inches, 0.10 inch above normal. For the entire Great Lakes basin, November precipitation averaged 2.14 inches, 0.60 inch below normal. For calendar year 2006 through November, the Lake Erie basin has averaged 39.38 inches of precipitation, 6.96 inches above normal, while the entire Great Lakes basin has averaged 31.78 inches, 1.70 inches above normal.

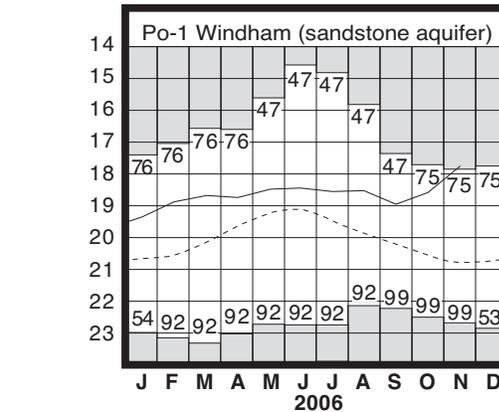
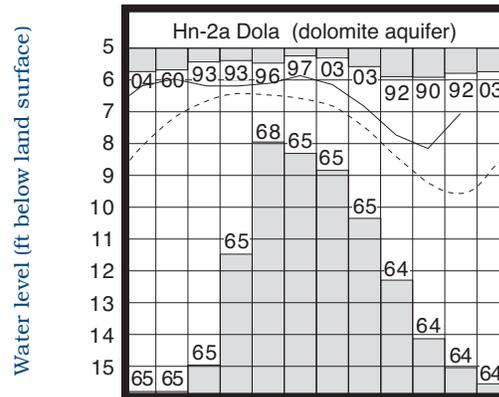
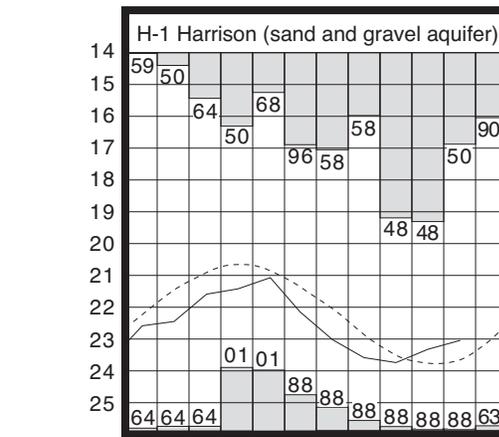
In addition, the USACE reports that based on the current condition of the Great Lakes basin and anticipated weather conditions, the level of Lake Erie should range between 4 inches above and 5 inches below normal during the next 6 months. Deviations from the anticipated weather patterns could result in the level of Lake Erie ranging from about 8 inches above to as much as 15 inches below the normal seasonal average.

GROUND-WATER LEVELS

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

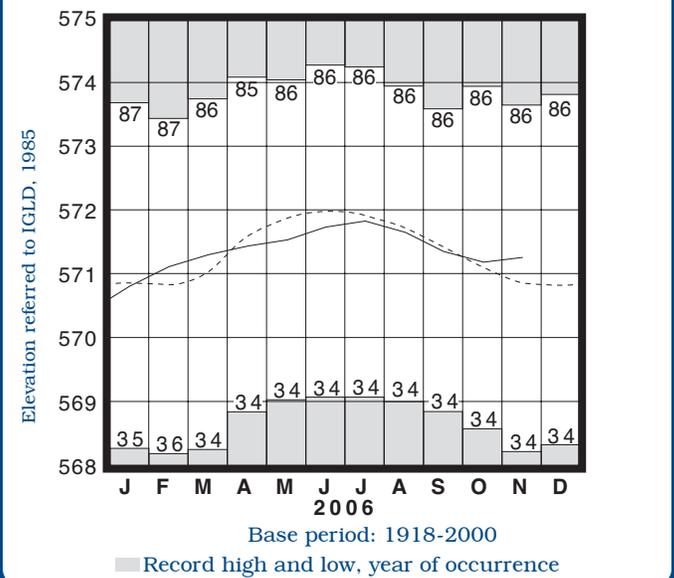
Index Well	Location	Aquifer	Mean This Month	Departure From Normal	Change in feet from:	
					Last Month	Year Ago
F-1	W. Rushville, Fairfield Co.	Sandstone	10.58	+7.00	+1.62	+4.84
Fa-1	Jasper Mill, Fayette Co.	Limestone	7.56	+1.47	+0.30	+4.00
Fr-10	Columbus, Franklin Co.	Gravel	44.86	-0.74	+0.60	-0.06
H-1	Harrison, Hamilton Co.	Gravel	23.02	+0.66	+0.19	+0.77
Hn-2a	Dola, Hardin Co.	Dolomite	7.09	+2.48	+1.06	-0.03
Po-1	Windham, Portage Co.	Sandstone	17.75	+3.04	+0.84	+1.72
Tu-1	Strasburg, Tuscarawas Co.	Gravel	12.66	+1.34	+1.07	+1.40

GROUND-WATER LEVELS



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

LAKE ERIE LEVELS



Normal - - - - Current ———

SUMMARY

Precipitation during November was below normal throughout most of the state. Streamflow was above normal statewide and high enough to be considered excessive across most of Ohio. Reservoir storage decreased in the Mahoning River basin and increased in the Scioto River basin. Storage remained above normal in both basins. Ground water levels rose in most aquifers, and were above normal throughout most of the state. Lake Erie level rose 0.07 foot and was 0.39 foot above the long-term November average.

NOTES AND COMMENTS

Division Of Water Administrator Elected President Of Dam Safety Association

Mark Ogden, Administrator of the ODNR Division of Water, Water Management Section, was elected President of the Association of State Dam Safety Officials (ASDSO) in September at the organization's annual conference in Boston, Massachusetts. He will serve as president from September 2007 until September 2008. The Division of Water's Dam Safety Engineering Program has been very active in the organization since its inception in 1984. ASDSO is a national non-profit organization of state and federal dam safety regulators, dam owners and operators, engineering consultants, manufacturers and suppliers, academia, contractors and others interested in the furtherance of dam safety. The vision of ASDSO is to lead the dam safety community in the United States with a strong and unified voice and effective programs and policies toward the furtherance of dam safety. For more information, visit the ASDSO web site at: <http://www.damsafety.org/>.

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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