MONTHLY WATER INVENTORY REPORT FOR OHIO

October 2011

http://www.ohiodnr.gov/tabid/4191/Default.aspx
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PRECIPITATION during October was above normal statewide. The state average was 4.46 inches, 1.99 inches above normal. This was the 13th wettest October during the past 129 years for the state as a whole. Regional averages ranged from 5.66 inches, 2.68 inches above normal, for the Northeast Region to 3.54 inches, 0.92 inches above normal, for the Southwest Region. Woodsfield (Monroe County) reported the greatest amount of October precipitation, 8.95 inches; Chardon (Geauga County) reported 8.77 inches, the only other location reporting more than 8 inches. Captain Anthony Meldahl Locks and Dam (Clermont County) reported the least amount, 2.29 inches.

Precipitation during October fell as rain with the bulk of the month's precipitation occurring during the second half of the month. Conditions were rather dry during the first 11 days of October across most of the state. An exception was in areas of north-central and northeastern Ohio, where occasional showers during the first three days of the month brought 0.50-1.50 inches of rain to that part of the state. Showers fell across the eastern half of the state on October 12, while little or no rain fell in the western half. The heaviest and most widespread precipitation fell during October 18-20 with most of the state receiving 2-4 inches of rain. The only area that missed the heaviest precipitation was extreme eastern Ohio where between 0.25 and 0.50 inch was reported. Showers fell across the state during October 24-28 with rain amounts of 0.50-1.0 inch reported at most locations and more than 1 inch reported across much of the southern one-third of Ohio.

Precipitation during the 2011 calendar year is above normal statewide. The average for the state is 46.91 inches, 14.63 inches above normal. Regional averages range from 51.45 inches, 19.19 inches above normal, for the Northeast Region to 42.39 inches, 13.33 inches above normal, for the Northwest Region.

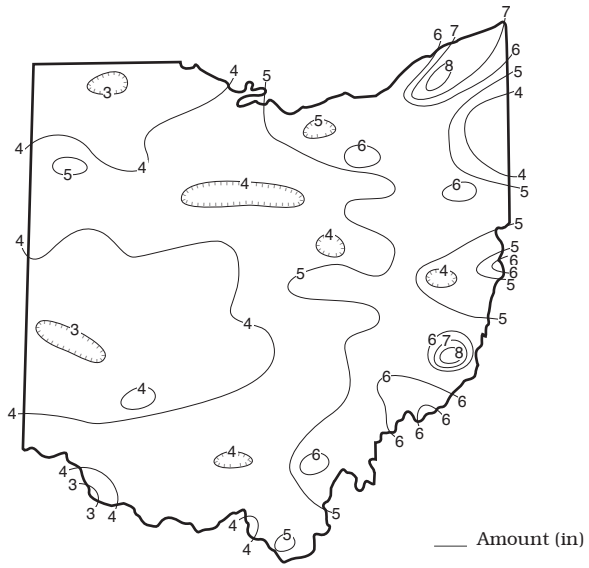
The 2012 water year (October 1, 2011 to September 30, 2012) is off to a good start as far as precipitation is concerned. Near-normal precipitation during the next several months should provide adequate recharge for water supplies throughout Ohio.

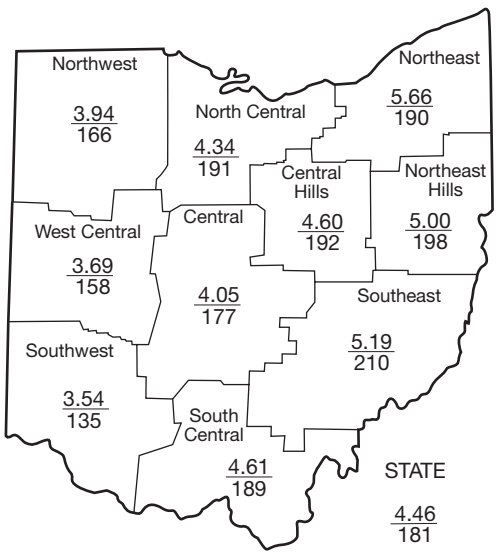
PRECIPITATION

Region	DEPARTURE FROM NORMAL (IN.) Base period 1951-2000					Palmer Drought Severity Index*
	This Month	Past 3 Mos.	Past 6 Mos.	Past 12 Mos.	Past 24 Mos.	
Northwest	+1.57	+6.71	+8.39	+13.03	+10.51	+3.3
North Central	+2.07	+6.61	+10.95	+16.89	+15.63	+5.5
Northeast	+2.68	+7.99	+12.19	+20.49	+18.55	+5.1
West Central	+1.36	+5.85	+6.66	+14.74	+10.38	+3.2
Central	+1.76	+4.38	+7.53	+13.98	+10.43	+2.6
Central Hills	+2.21	+5.01	+6.81	+12.42	+9.08	+2.8
Northeast Hills	+2.47	+5.66	+7.93	+13.84	+11.48	+1.4
Southwest	+0.92	+4.08	+4.89	+14.37	+6.56	+2.6
South Central	+2.17	+4.84	+7.64	+16.88	+17.66	+2.9
Southeast	+2.72	+5.64	+7.00	+14.25	+12.21	+3.2
State	+1.99	+5.67	+8.00	+15.10	+12.28	

*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 OCTOBER





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	2,089	870	313	229	163
Great Miami River at Hamilton	3,630	3,386	352	158	186	171
Huron River at Milan	371	581	1,367	248	253	194
Killbuck Creek at Killbuck	464	484	361	133	171	139
Little Beaver Creek near East Liverpool	496	322	204	114	138	133
Maumee River at Waterville	6,330	8,002	1,034	240	219	137
Muskingum River at McConnelsville	7,422	7,442	293	256	249	118
Scioto River near Prospect	567	1,325	4,871	805	349	209
Scioto River at Higby	5,131	4,911	388	174	213	161
Stillwater River at Pleasant Hill	503	187	298	67	145	146

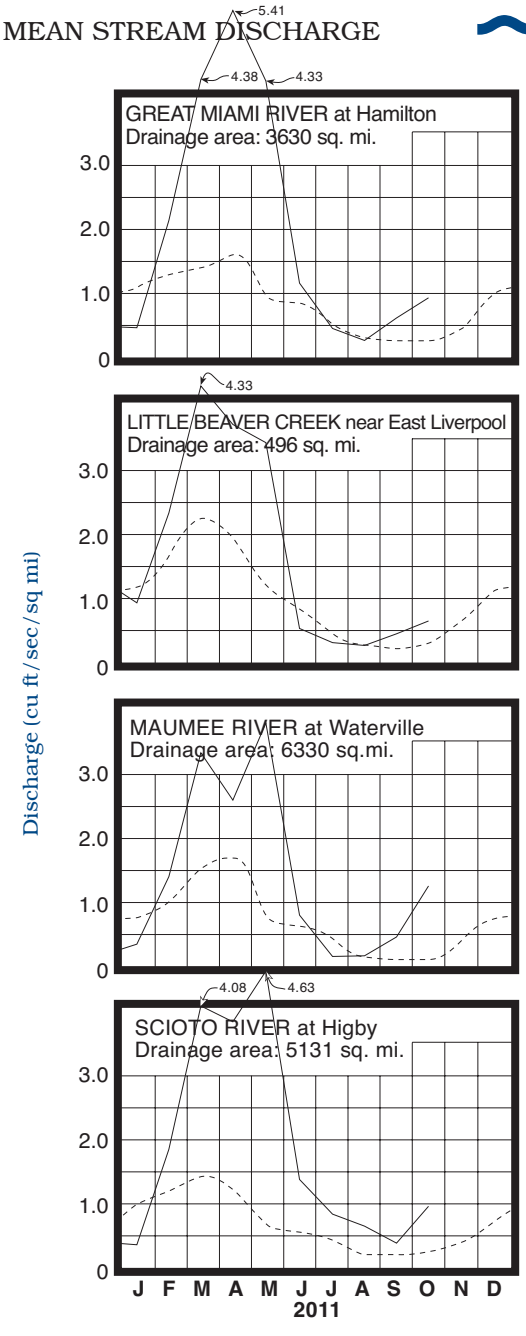
STREAMFLOW during October was notably above normal throughout the state. Flows during the month were greater than those observed during September and were high enough to be considered excessive throughout Ohio. Preliminary data indicates that flows throughout much of the state were at record or near-record high October flows, including the greatest October flow for the Great Miami River at Hamilton and the Huron River at Milan.

Streamflow at the beginning of the month was above normal statewide. Flows declined during the first two weeks of the month as dry conditions prevailed across most of the state. Lowest flows for the month occurred near mid-month across the state, generally during October 11-12 in eastern Ohio and during October 16-18 in western Ohio. Greatest flows for the month occurred during October 20-22 following the month's heaviest and most widespread precipitation. Minor flooding was observed in many areas of the state, especially in northern Ohio, during this period. After peaking, flows generally declined through the end of the month, but remained significantly above normal at the end of October.

RESERVOIR STORAGE for water supply during October decreased in the Mahoning River basin and increased slightly in the Scioto River basin. Storage at the end of the month remained above normal in both basins.

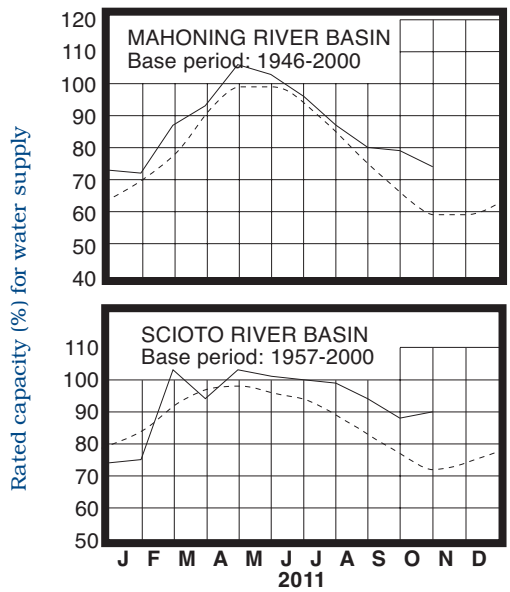
Reservoir storage in the Mahoning basin index reservoirs was 74 percent of rated capacity for water supply compared with 79 percent for last month and 74 percent for October 2010. Month-end storage in the Scioto basin index reservoirs was 90 percent of rated capacity for water supply compared with 88 percent for last month and 70 percent for October 2010. Levels in most recreational and flood control reservoirs will soon be lowered to winter pool elevations. Surface water supplies are in excellent condition at the beginning of the 2012 water year.

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

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	15.00	+2.44	-0.13	+0.22
Fa-1	Jasper Mill, Fayette Co.	Limestone	9.58	-0.50	-0.11	+2.21
Fr-10	Columbus, Franklin Co.	Gravel	43.79	+0.44	+0.24	+1.67
H-1	Harrison, Hamilton Co.	Gravel	23.70	+0.06	+0.16	+0.93
Hn-2a	Dola, Hardin Co.	Dolomite	6.92	+2.31	+0.65	+3.67
Po-124	Freedom, Portage Co.	Sandstone	76.77	+1.58	+0.23	+0.67
Tu-1	Strasburg, Tuscarawas Co.	Gravel	14.73	-0.77	-0.02	+0.61

GROUND WATER levels during October were rather stable or rose throughout most of Ohio, a month in which ground water levels normally decline statewide. Even in aquifers that showed a net decline for the month, the declines were much less than usually observed in October. Generally, levels declined during the first half of the month, then rose during the second half in response to above normal precipitation that fell during this period.

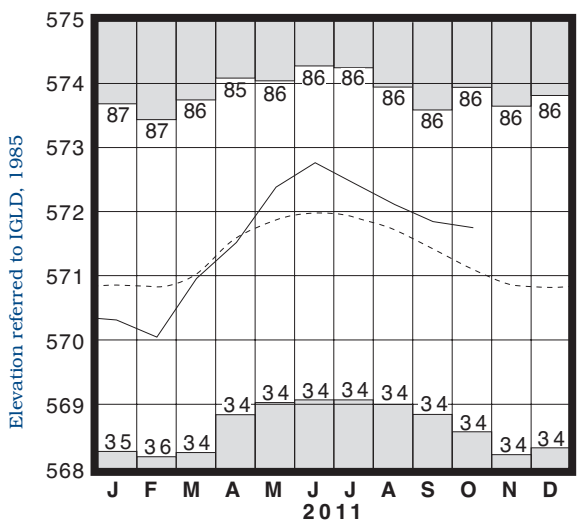
Ground water supplies continue to benefit from the above normal precipitation of the past several months. Levels are above normal in most aquifers throughout the state. Also, current levels are higher than they were at this time last year, ranging from about 0.25 foot to more than 3.5 feet above the October 2010 levels. Ground water supplies are in a favorable position as the 2012 water year recharge season begins. However, the wet conditions during the second half of October have delayed the fall harvest and the planting of winter wheat. The Ohio Agricultural Statistics Service reports that near the end of October, soil moisture was rated as being adequate in 38 percent of the state and surplus in 62 percent of the state. With near-normal precipitation and other climatic conditions during the next several months, the ground water situation should remain positive throughout Ohio.

LAKE ERIE level declined seasonally during October. The mean level was 571.75 feet (IGLD-1985), 0.10 foot lower than last month's mean level and 0.65 foot above normal. This month's mean level is 0.98 foot above the October 2010 level and 2.55 feet above Low Water Datum.

The U.S. Army Corps of Engineers (USACE) reports that precipitation in the Lake Erie basin during October averaged 4.38 inches, 1.61 inches above normal. For the entire Great Lakes basin, October precipitation averaged 3.28 inches, 0.40 inch above normal. For calendar year 2011 through October the Lake Erie basin has averaged 42.52 inches of precipitation, 12.64 inches above normal, while the entire Great Lakes basin has averaged 31.71 inches, 4.22 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 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 12 inches above normal to around 9 inches below the normal seasonal average.

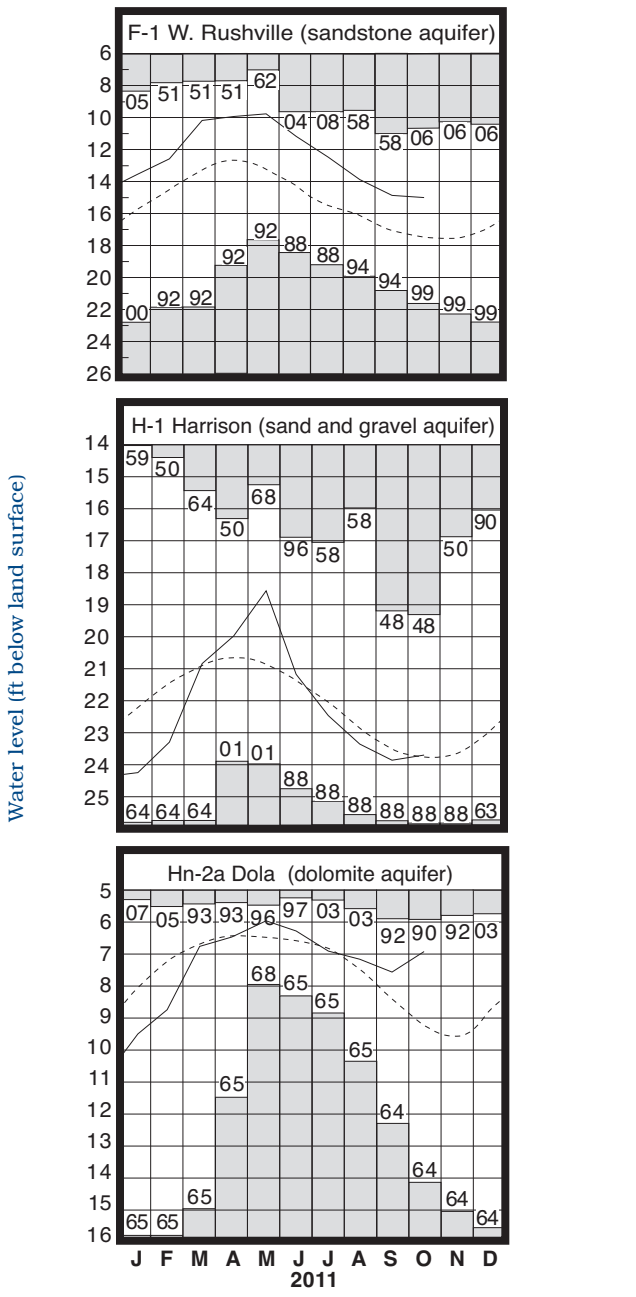
LAKE ERIE LEVELS



Base period: 1918-2000

Record high and low, year of occurrence

GROUND-WATER LEVELS



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

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

Normal – – – – Current ———

SUMMARY

Precipitation during October was above normal statewide. Streamflow was above normal throughout Ohio and high enough to be considered excessive. Reservoir storage decreased in the Mahoning River basin and increased slightly in the Scioto River basin. Storage remained above normal in both basins. Ground water levels were stable or rose in most aquifers, and are above normal throughout most of the state. Lake Erie level declined seasonally and was 0.65 foot above the long-term October average. Water supplies are favorable throughout Ohio at the beginning of the 2012 water year.

NOTES AND COMMENTS

Editorial

The purpose of this report is to disseminate current hydrologic data in a timely and brief format. Observation points have been selected which are considered to be sufficiently representative of hydrologic conditions in the state to permit an evaluation of the current water-supply situation. These key observation stations offer the best available data on the basis of accuracy and length of record, minimal artificial effects on data, and availability of records. Data from these stations are collected by various agencies at the end of each month and processed immediately. Because of the time limitations involved, all data presented in this report must be considered preliminary and may be subject to revision before publication in regular form by the agencies involved. The remarks in this report include the writer's opinion of the cause and significance of the phenomena reported. The author is indebted to the various agencies and individuals who make this data available.

More complete and detailed information regarding water resources can be obtained by contacting the Division of Soil and Water Resources or visiting our website at: http://www.OhioDNR.gov/SoilandWater/. Comments and suggestions regarding this report are always welcome.

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.

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