



MONTHLY WATER INVENTORY REPORT FOR OHIO

January 1995

Compiled By David H. Cashell
Hydrologist
Water Inventory Unit

SUMMARY

Precipitation during January was above normal in most of Ohio but below normal in the western and southwestern areas. Streamflow was above normal in all but the western and southwestern Ohio drainage basins. Reservoir storage increased to above normal levels. Ground water storage showed improvement but remains at below normal levels in most areas of the state. Lake Erie level rose slightly and was 1.12 feet above the long-term January average.

NOTES AND COMMENTS

NEW DIRECTOR AT ODNR

Governor George V. Voinovich recently announced the appointment of Donald C. Anderson as director of the Ohio Department of Natural Resources (ODNR). He follows Frances S. Buchholzer who stepped down January 9, 1995 after four productive years as ODNR director.

Donald C. Anderson brings a depth of experience in conservation, natural resources and public administration to the Director's office, including 15 years' previous service with ODNR, the past four years as assistant director.

Anderson originally joined the department in 1972 and became chief of ODNR's fiscal division in 1974. In 1981 he was named deputy director of administration, responsible for personnel and fiscal management for the agency. He left state government in 1982 to join an international natural resources consulting firm. He rejoined ODNR in February 1991 as assistant director.

A native of Toledo, Anderson is a graduate of The Ohio State University with a bachelor's degree in history (1967) and master's degree in public administration (1973). Prior to joining ODNR, he served as a communications officer in the U.S. Air Force from 1967 to 1971, attaining the rank of captain.

He and his wife, Sally Hough, have four children and reside in Worthington.

DIVISION OF WATER ENGINEER NAMED PRESIDENT ELECT OF ASDSO

George Mills, administrator of the Division of Water's Water Engineering Section, is the Association of State Dam Safety Officials (ASDSO) new president elect. He will begin serving as president in September 1995. Mr. Mills has been on the ASDSO Board of Directors since 1992. Ohio was a charter member of ASDSO when it was organized in 1984.

The dam safety program in Ohio is considered one of the finest dam safety programs in the country. As administrator, George directs a staff that has many responsibilities including regulatory jurisdiction for about 1800 dams, issuing permits for new dam construction, providing technical assistance for repairs during emergency situations, and the hydraulic and maintenance operations for Ohio's historic canal system. In addition to his responsibilities at the Division of Water, George helped to establish the National Performance of Dams Center at Stanford University.

Mr. Mills, a graduate of The Ohio State University in agricultural engineering, has worked for the Division of Water since 1968. He is a Vietnam veteran where he served in the U. S. Army.

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 Conserancy 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.



DIVISION OF WATER
1939 FOUNTAIN SQUARE
COLUMBUS, OHIO 43224

George V. Voinovich
Governor

Donald C. Anderson
Director

Michele Willis
Chief

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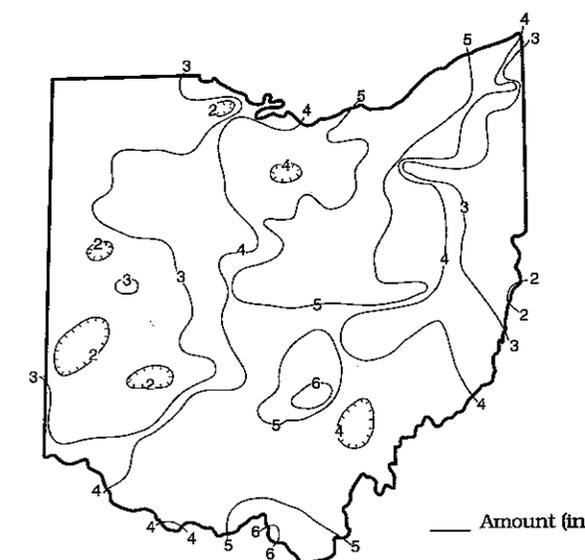
PRECIPITATION for January was above normal throughout most of Ohio but was below normal in the West Central and Southwest regions. The state average was 3.84 inches, 1.08 inches above normal. Regional averages ranged from 5.04 inches, 2.34 inches above normal, for the Central Hills Region to 2.32 inches, 0.35 inch below normal, for the West Central Region. Enterprise (Hocking County) reported the greatest amount of precipitation for the month, 6.67 inches. Xenia (Greene County) reported the least amount, 1.64 inches.

Precipitation during January fell as both rain and snow. Precipitation fell during every week of the month and on most weekends. The largest storms occurred after mid-month. Most areas of the state received about 0.5 inch of precipitation during the first week of the month, much of it falling as snow. Temperatures warmed the following week. Storms began to cross the state on January 14 and continuing through January 16 with the precipitation falling as rain in most areas of Ohio. A large area extending from central up through northeastern Ohio received between 2 and 3 inches of precipitation during this period with the storm missing almost the entire western area of the state. Minor flooding was reported in some areas following this period. Winter weather finally made its debut in Ohio during the last ten days of the month. Storms started on January 20 as rain, but quickly changed to snow which continued to fall through January 22. Many areas in central, north-central and northeastern Ohio received significant snowfall, the first of the season for many locations. The remainder of the month was rather dry in many areas of the state, but extreme southern Ohio had snow storms during January 28-29 and northeastern Ohio had snow storms and squalls throughout this period.

Precipitation for the 1995 water year is slightly above normal throughout most of Ohio but remains below normal in the West Central and Southwest regions. The state average is 10.41 inches, 0.08 inch above normal. Regional averages range from 11.60 inches, 0.26 inch above normal, for the South Central Region to 8.11 inches, 1.93 inches below normal, for the West Central Region. The above normal precipitation in most of Ohio during January resulted in the first significant improvement in ground water storage during the 1995 water year recharge period. Near normal precipitation and other climatic conditions during the next several months is needed to continue this improvement for both surface and ground water supplies.

The 1995 calendar year is off to a good start in most areas of Ohio as far as precipitation is concerned. Near normal precipitation distributed evenly throughout the year will provide the necessary benefits for water supplies, agriculture, recreation and many other social and economic activities.

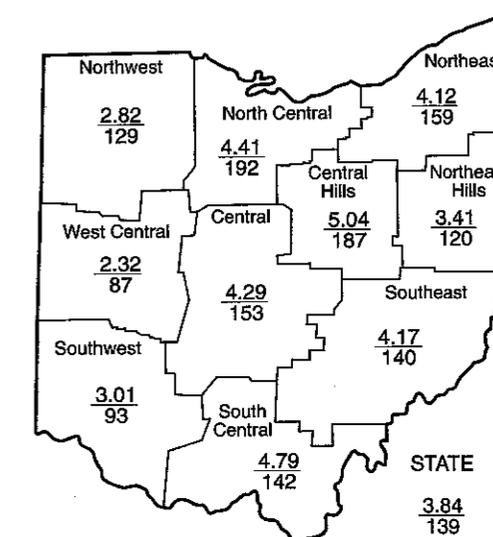
PRECIPITATION JANUARY 1995



PRECIPITATION

Region	DEPARTURE FROM NORMAL (IN.)					Palmer Drought Severity Index*
	This Month	Past				
		3 Mos.	6 Mos.	12 Mos.	24 Mos.	
Northwest	+0.64	+1.74	-1.46	-4.96	-5.60	-0.6
North Central	+2.11	+2.76	+1.36	-1.36	-2.05	+0.6
Northeast	+1.53	+1.79	+2.17	+1.62	+5.63	+2.2
West Central	-0.35	-0.29	-3.50	-7.51	-0.62	-2.2
Central	+1.48	+1.70	-0.39	-3.36	+0.43	-0.2
Central Hills	+2.34	+2.68	+1.45	+0.46	+2.57	+1.0
Northeast Hills	+0.58	+1.91	+1.05	+1.15	+4.33	+0.8
Southwest	-0.22	-0.10	-3.11	-4.44	-4.28	+0.1
South Central	+1.42	+1.54	-0.57	+2.40	-0.93	+0.6
Southeast	+1.20	+1.57	+0.16	+1.88	+2.27	+0.6
State	+1.08	+1.54	-0.28	-1.40	+0.21	

*Above +4 = Extreme Moist Spell
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-3.0 To -3.9 = Severe Drought
Below -4.0 = Extreme Drought



Average (in)
Percent of normal

MEAN STREAM DISCHARGE

River and Location	Drainage Area (Sq. Mi.)	Mean Discharge (CFS)	% of Normal	This Month		
				% of Normal Past		
				3 Mos.	6 Mos.	12 Mos.
Grand River near Painesville	685	2,284	217	93	91	91
Great Miami River at Hamilton	3,630	1,829	62	33	41	70
Huron River at Milan	371	534	150	94	97	82
Killbuck Creek at Killbuck	464	803	213	103	99	97
Little Beaver Creek near East Liverpool	496	498	100	108	111	95
Maumee River at Waterville	6,330	5,474	174	60	49	67
Muskingum River at McConnellsville	7,422	12,820	162	109	102	104
Scioto River near Prospect	567	569	168	68	65	79
Scioto River at Higby	5,131	7,310	197	88	89	94
Stillwater River at Pleasant Hill	503	217	60	33	34	52

STREAMFLOW during January was above normal throughout most of Ohio but below normal in the western and southwestern areas of the state. Flows in some southeastern, east-central and northeastern Ohio drainage basins were high enough to be considered excessive. Flows in most drainage basins during January increased noticeably from the flows recorded during December.

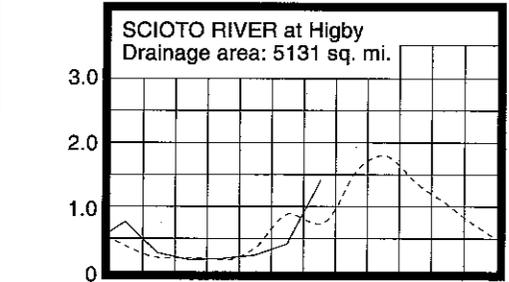
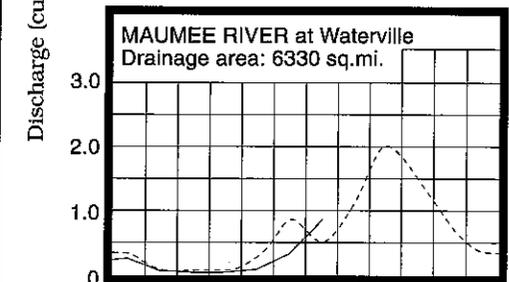
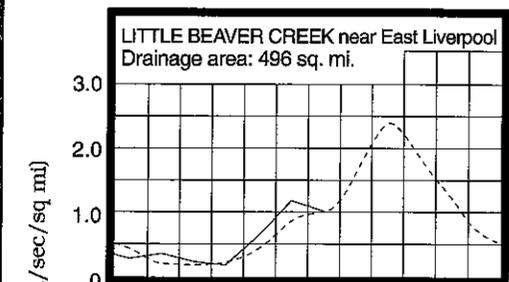
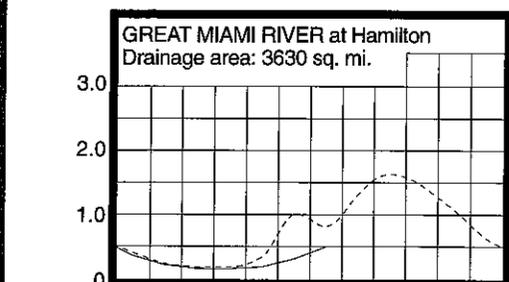
Streamflows at the beginning of January were markedly below normal throughout the state. Lowest flows in January for most areas of the state occurred during the first five days of the month, a few days later in some locations. Streamflows increased rapidly after mid-month following widespread precipitation with the greatest amounts falling in the eastern two-thirds of the state.

Drainage basins in the eastern two-thirds of Ohio recorded their greatest flows for the month during January 16-19. Minor flooding was reported during January 16-17 in some southern and southeastern Ohio drainage basins. Greatest flows in the western one-third of the state occurred during January 20-22 with some minor flooding also reported in northwestern and southwestern Ohio during this period. Flows declined through the end of the month and at the month's end were above normal in the eastern, northwestern and south-central drainage basins but below normal in the northeastern, southwestern and western drainage basins.

RESERVOIR STORAGE for water supply during January increased in both the Mahoning and Scioto river basins. Month-end storage remained at above normal levels in the Mahoning basin reservoirs. In the Scioto basin reservoirs, storage rose to above normal levels for the first time since late spring 1994.

Reservoir storage at the end of January in the Mahoning basin index reservoirs was 73 percent of rated capacity for water supply compared with 64 percent for last month and 92 percent for January 1994. Month-end storage in the Scioto basin index reservoirs was 89 percent of rated capacity for water supply compared with 58 percent for last month and 107 percent for January 1994.

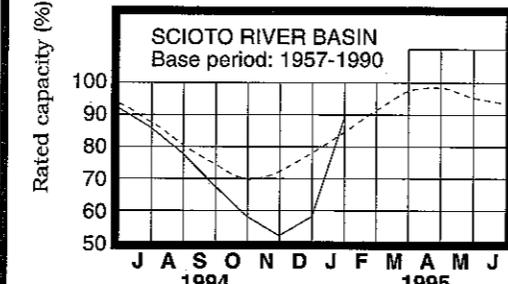
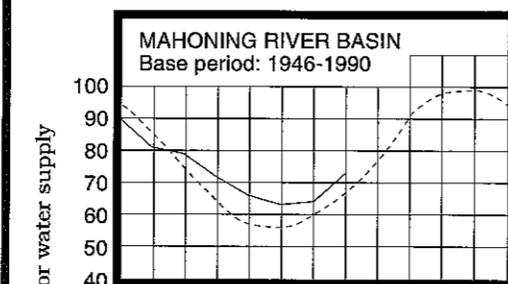
MEAN STREAM DISCHARGE



Base period for all streams: 1961-1990

Normal - - - - Current - - - -

RESERVOIR STORAGE FOR WATER SUPPLY



Base period: 1900-1991

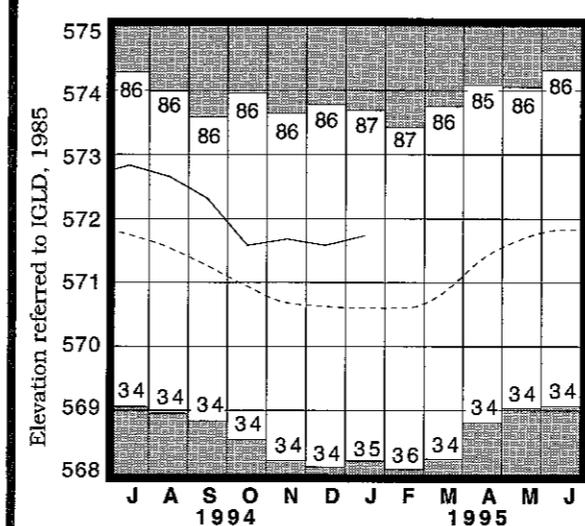
GROUND WATER LEVELS during January rose in all aquifers throughout Ohio. Net changes from December's to January's levels were less than that usually observed in most aquifers, but were slightly greater than usually observed in some consolidated aquifers. This was the first month in the 1995 water year recharge period with any significant improvement in ground water storage.

Ground water levels were stable or declined slightly during the first half of the month and then rose steadily during the second half especially in most of the shallower aquifers. Deeper aquifers generally had a gradual rise throughout the month. Current ground water levels continue to remain lower than they were a year ago ranging from about 0.5 foot to more than 4 feet below the January 1994 levels. Ground water storage also continues to remain at noticeably below normal levels, especially in the eastern half of the state. As an example, index observation well F-1 (Fairfield County), representing sandstone aquifers in eastern and southeastern Ohio, recorded its lowest January level ever observed and index observation well Tu-1 (Tuscarawas County), representing sand and gravel aquifers in eastern and northeastern Ohio, reached its lowest level ever observed. Both of these observation wells showed some improvement during the second half of the month after reaching these record-low levels. Both wells have more than 47 years of record.

It appears that ground water storage has finally bottomed out and turned the corner showing the first significant improvement for the 1995 water year. Near normal precipitation and other climatic conditions will be needed to continue and sustain this improvement. Several months remain with the potential to provide the conditions favorable for ground water recharge. Water supply managers with ground water sources should continue to closely monitor their specific conditions throughout the current recharge season.

LAKE ERIE level rose slightly during January. The mean level was 571.72 feet (IGLD-1985), 0.13 foot above last month's mean level and 1.12 feet above normal. This month's level is 0.13 foot higher than the January 1994 level and 2.52 feet above Low Water Datum.

LAKE ERIE LEVELS at Fairport



Base period: 1900-1991
Record high and low, year of occurrence

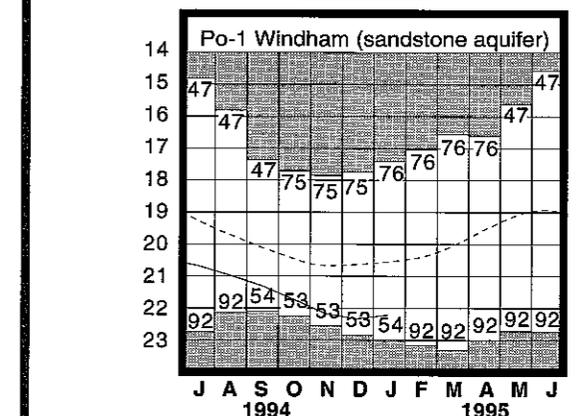
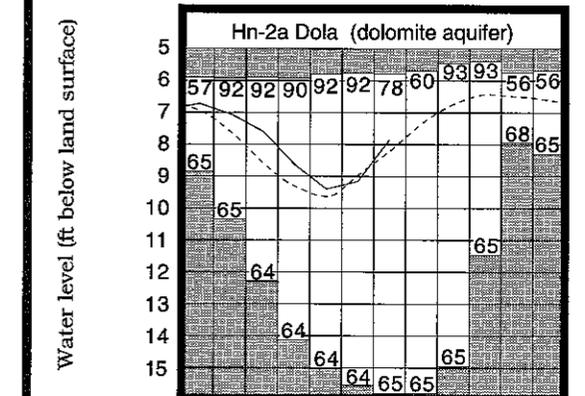
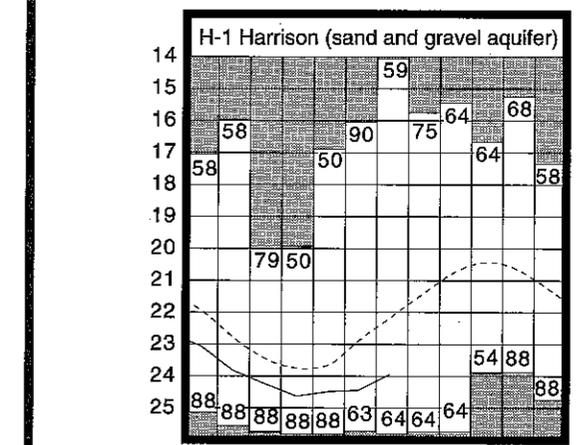
Normal - - - - Current - - - -

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	20.84	-5.29	+0.88	-4.39
Fa-1	Jasper Mill, Fayette Co.	Limestone	8.23	-0.79	+1.25	-0.43
Fr-10	Columbus, Franklin Co.	Gravel	44.02	-0.41	+0.43	-1.24
H-1	Harrison, Hamilton Co.	Gravel	23.93	-1.80	+0.52	-1.86
Hn-2a	Dola, Hardin Co.	Dolomite	7.86	+0.34	+1.32	-0.60
Po-1	Windham, Portage Co.	Sandstone	22.21	-1.66	+0.12	-0.58
Tu-1	Strasburg, Tuscarawas Co.	Gravel	15.73	-2.80	+0.48	-0.51

GROUND-WATER LEVELS



Base periods: H-1, 1951-1990. Hn-2a, 1955-1990. Po-1, 1947-1990
Record high and low, year of occurrence

Normal - - - - Current - - - -



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February 1995

Compiled By David H. Cashell
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SUMMARY

Precipitation was noticeably below normal throughout the state. Streamflow was deficient in all but the drainage basins in the mid-section of the state. Reservoir storage improved and was at or above normal seasonal levels. Ground water storage improved slightly, but remained at below normal levels throughout most of the state. Lake Erie level rose slightly and was 1.18 feet above the long-term February average.

NOTES AND COMMENTS

NEW PUBLICATIONS

The Division of Water announces the availability of the following new publications:

Ground Water Pollution Potential of Clinton County
by James J. Schmidt

Ground Water Pollution Potential of Columbiana County
by Michael P. Angle

Ground Water Pollution Potential of Coshocton County
by Paul N. Spahr

Ground Water Pollution Potential of Montgomery County
by Michael Hallfrisch and Michael P. Angle

Ground water pollution potential maps are designed to determine an area's relative vulnerability to ground water pollution. The maps can be used as a planning and management tool for administrators, commissioners, zoning boards and others to aid in making educated decisions about local development and siting of land use operations or activities that can affect ground water quality. The system optimizes the use of existing data to rank areas with respect to pollution potential to help direct investigations and resource expenditures and to prioritize protection, monitoring and clean-up efforts.

Mapping an area's potential for ground water pollution is a relatively new idea. These maps use the DRASTIC system as developed for the U.S. Environmental Protection Agency by the National Ground Water Association. DRASTIC values, as shown on the maps, indicate an area's relative vulnerability to contamination through the use of a numerical rating scheme and the mapping of hydrogeologic settings. Low DRASTIC values indicate relatively low potential and high DRASTIC values indicate a high potential for contamination. Areas of similar DRASTIC values are color-coded for ease of interpretation.

Each ground water pollution potential map with its accompanying report costs \$10.00. They can be purchased at or ordered from the address listed below.

ODNR Division of Water
Water Resources Section
1939 Fountain Square, Building E-1
Columbus, Ohio 43224-1336
Phone (614) 265-6740

Postage and Handling Charges

Cost of Publications	Add
under \$10.01	\$2.00
\$10.01 - \$20.00	\$3.00
\$20.01 - \$50.00	\$5.00
\$50.01 - \$100.00	\$8.50
\$100.01 and over	\$10.00

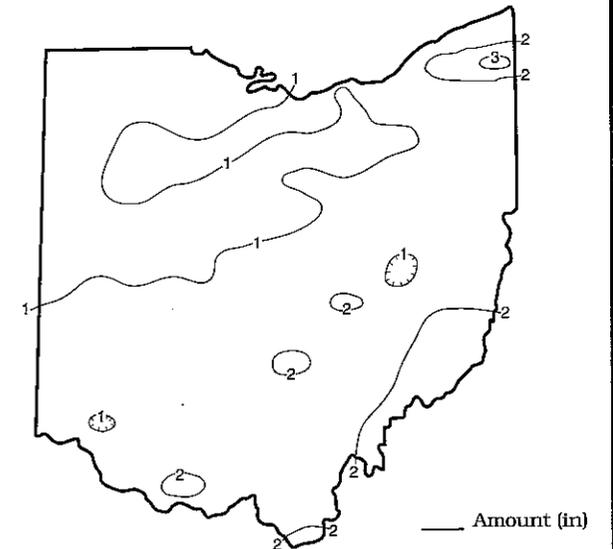
PRECIPITATION for February was noticeably below normal throughout Ohio. The state average was 1.38 inches, 0.86 inch below normal. Regional averages ranged from 2.01 inches, 0.48 inch below normal, for the Southeast Region to 0.78 inch, 1.06 inches below normal, for the Northwest Region. Andover (Ashtabula County) reported the greatest amount of precipitation for the month, 3.96 inches, the only location reporting more than three inches of precipitation in February. Montpelier (Williams County) reported the least amount of February precipitation, only 0.37 inch.

Precipitation fell mostly as snow during the first half of February and as rain during the second half. Total precipitation during the first half of the month was nominal in northwestern Ohio increasing to only about 0.5 inch in the southeastern area of the state. Much of the snow that fell during late January and the first half of February remained on the ground as temperatures remained below normal throughout this period. Warmer air moved into the state at mid-month which melted much of the snow on the ground and also brought rain showers. Although northwestern Ohio received little precipitation, some areas in southern and southeastern Ohio reported more than 1 inch of rain during February 15-16. The most widespread precipitation for the month fell during February 27-28 when most areas of the state received between 0.5 and 1 inch of precipitation.

Precipitation for the 1995 calendar year is generally above normal in the eastern two-thirds of the state and below normal in the western one-third. The state average is 5.22 inches, 0.22 inch above normal. Regional averages range from 6.64 inches, 0.49 inch above normal, for the South Central Region to 3.29 inches, 1.49 inches below normal, for the West Central Region.

Precipitation for the 1995 water year is below normal throughout most of Ohio, but slightly above normal in the north-central and northeastern areas of the state. The state average is 11.79 inches, 0.79 inch below normal. Regional averages range from 13.45 inches, 0.67 inch below normal, for the South Central Region to 9.08 inches, 3.07 inches below normal, for the West Central Region. The 1995 water year recharge season has not been favorable for significant improvement in ground water storage. Only a few months remain with the potential to produce the climatic conditions necessary for the much needed ground water recharge. Near normal precipitation will be required to sustain any improvement that has been observed during the past two months.

PRECIPITATION FEBRUARY 1995

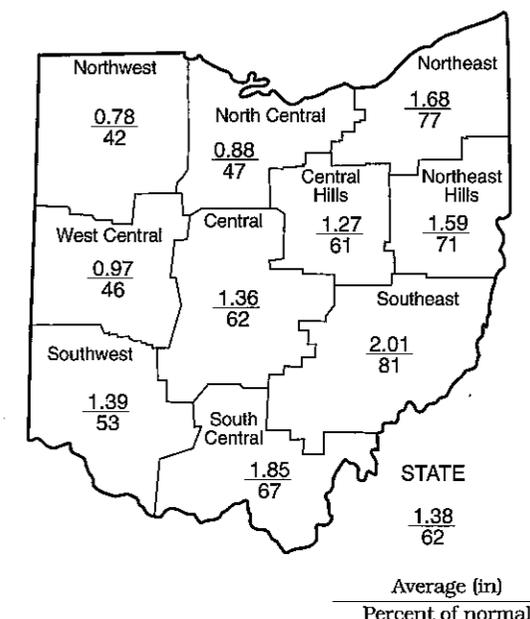


PRECIPITATION

Region	DEPARTURE FROM NORMAL (IN.)					Palmer Drought Severity Index*
	This Month	Past				
		3 Mos.	6 Mos.	12 Mos.	24 Mos.	
Northwest	-1.06	-0.18	-2.64	-5.38	-6.46	-1.1
North Central	-0.99	+1.50	-0.81	-1.68	-2.97	-1.4
Northeast	-0.49	+1.14	-0.59	+1.94	+5.22	+0.7
West Central	-1.14	-1.82	-4.72	-7.91	-1.78	-2.5
Central	-0.85	+0.50	-1.71	-3.61	-0.42	-0.7
Central Hills	-0.82	+1.66	-0.96	+0.20	+2.09	-0.6
Northeast Hills	-0.64	-0.08	-1.15	+0.77	+3.50	-0.3
Southwest	-1.23	-1.75	-4.62	-4.88	-5.58	-1.1
South Central	-0.93	+0.53	-1.31	+0.39	-1.56	-1.0
Southeast	-0.48	+0.73	-1.09	+1.41	+1.97	-0.2
State	-0.86	+0.23	-1.95	-1.86	-0.56	

*Above +4 = Extreme Moist Spell
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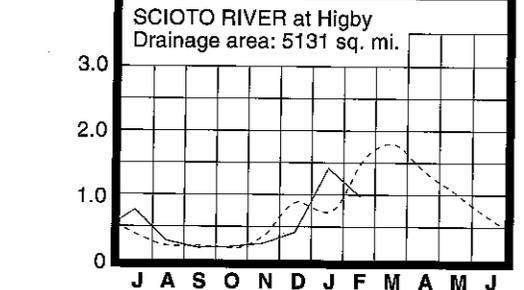
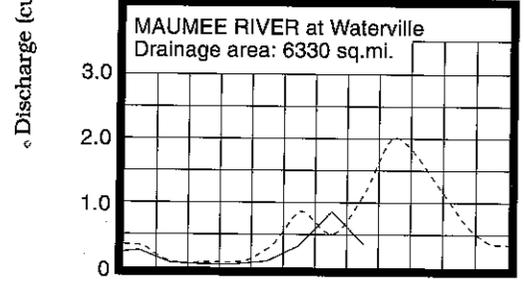
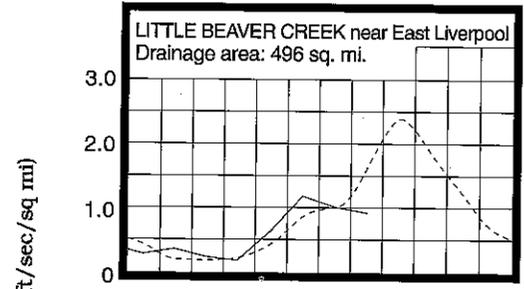
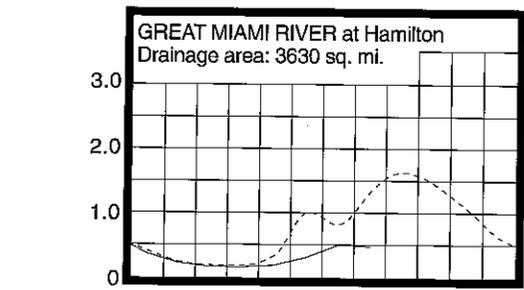
Michele Willis
Chief

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Great Miami River at Hamilton	3,630	1,697	35	39	37	63
Huron River at Milan	371	325	70	77	74	76
Killbuck Creek at Killbuck	464	323	46	84	74	85
Little Beaver Creek near East Liverpool	496	455	54	83	83	88
Maumee River at Waterville	6,330	2,226	32	54	44	58
Muskingum River at McConnelsville	7,422	7,998	66	96	85	91
Scioto River near Prospect	567	354	53	66	54	70
Scioto River at Higby	5,131	5,040	67	83	76	84
Stillwater River at Pleasant Hill	503	146	26	31	26	43

MEAN STREAM DISCHARGE



Base period for all streams: 1961-1990

Normal - - - - Current - - - -

STREAMFLOW during February was below normal throughout Ohio. Flows in all but the central section of the state were low enough to be considered deficient. Contrary to the normal seasonal trend, February flows were less than the flows recorded during January.

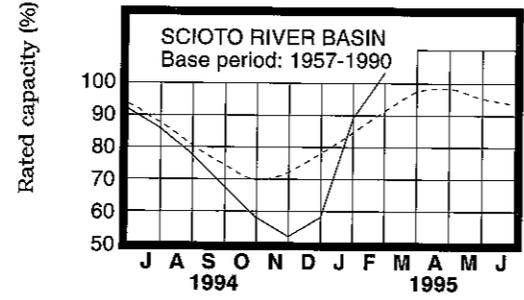
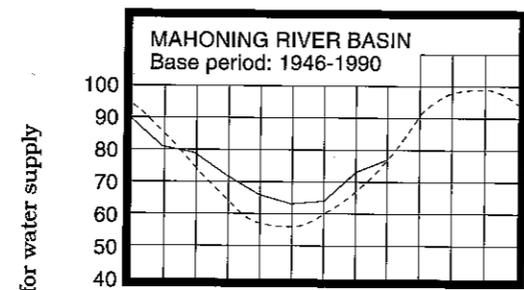
Flows at the beginning of the month were below normal throughout the state. Generally, flows declined until mid-month at which time all drainage basins recorded their month's lowest flows. Flows increased slightly following precipitation and snowmelt on February 14-16. Many drainage basins in the southern half of the state had their greatest flows for February just after this period. Most drainage basins in the northern half of the state had their greatest flows for February at the end of the month following widespread precipitation during February 27-28. Flows at the end of the month were still below normal in the southern half of the state, but slightly above normal in the northern half.

RESERVOIR STORAGE for water supply during February increased in both the Mahoning and Scioto river basins. Month-end storage was at normal levels in the Mahoning basin reservoirs and at above normal levels in the Scioto basin reservoirs.

Reservoir storage at the end of February in the Mahoning basin index reservoirs was 77 percent of rated capacity for water supply compared with 73 percent for last month and 88 percent for February 1994. Month-end storage in the Scioto basin index reservoirs was 104 percent of rated capacity for water supply compared with 89 percent for last month and 105 percent for February 1994.

Surface water supplies are currently in good shape throughout most of Ohio. On-stream reservoirs are near or slightly above normal seasonal levels. Off-stream reservoirs are in a similar situation and there would appear to be ample time to select high-flow periods to fill reservoirs to capacity.

RESERVOIR STORAGE FOR WATER SUPPLY



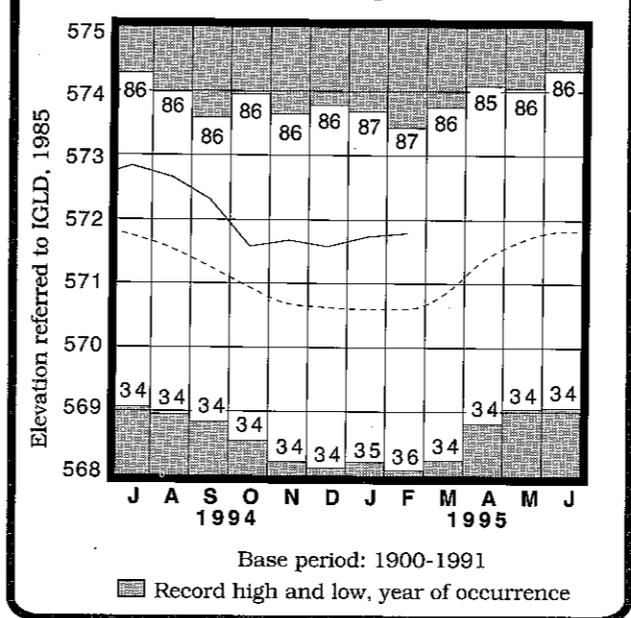
GROUND WATER LEVELS during February showed some improvement throughout the state. Much of the improvement can be related to delayed recharge from precipitation in January or to snowmelt and precipitation after the middle of February. Net changes from last month's levels were greater than usually observed in consolidated aquifers, but less than usually observed in unconsolidated aquifers. Ground water levels in most unconsolidated aquifers were stable or declined slightly during the first half of the month and then rose during the second half. In most consolidated aquifers, levels were stable or rose slightly during the first half of the month and then rose steadily during the second half.

Current ground water levels continue to remain noticeably lower than they were a year ago. Current levels range from slightly lower to nearly three feet lower than the levels observed in February 1994. Ground water storage also continues to remain at noticeably below normal levels in most areas of Ohio with the greatest departures being in the eastern half of the state. Only a few months remain with the potential to provide the climatic conditions favorable for ground water recharge. Water supply managers with ground water sources should continue to closely monitor their specific conditions throughout the current recharge season and the summer high-demand period.

LAKE ERIE level rose slightly during February. The mean level was 571.78 feet (IGLD-1985), 0.06 foot above last month's mean level and 1.18 feet above normal. This month's level is 0.29 foot above the February 1994 level and 2.58 feet above Low Water Datum.

The U.S. Army Corps of Engineers reports that precipitation in the Lake Erie basin during February averaged 1.3 inches, 0.8 inch below normal. The entire Great Lakes basin averaged 1.4 inches of precipitation in February, 0.4 inch below normal. For calendar year 1995, the Lake Erie basin has averaged 5.1 inches of precipitation, 0.6 inch above normal and the entire Great Lakes basin has averaged 4.0 inches, 0.1 inch above normal.

LAKE ERIE LEVELS at Fairport



Base period: 1900-1991
Record high and low, year of occurrence

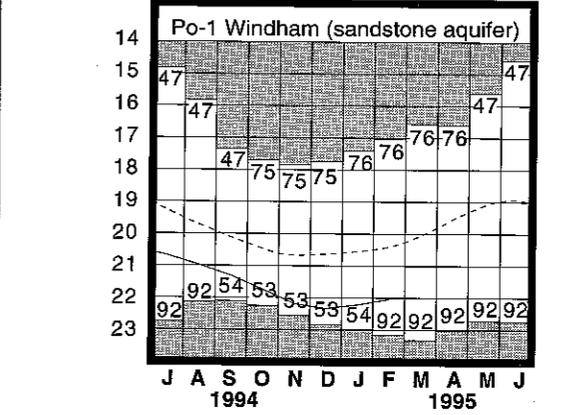
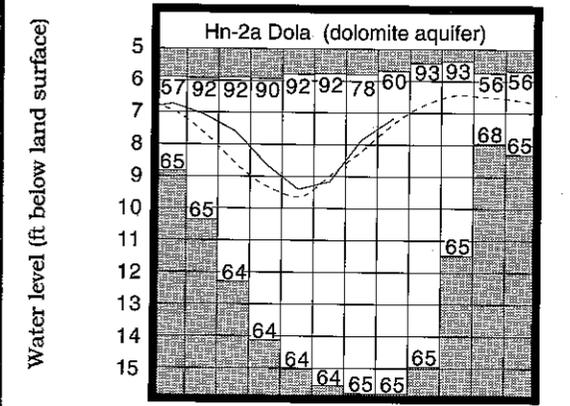
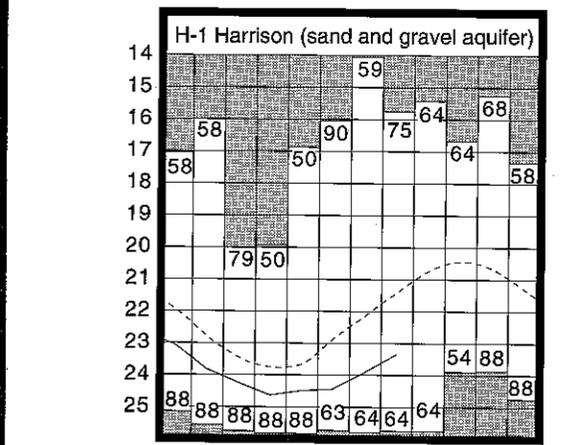
Normal - - - - Current - - - -

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	17.48	-3.00	+3.36	-2.95
Fa-1	Jasper Mill, Fayette Co.	Limestone	7.51	-0.43	+0.72	-0.10
Fr-10	Columbus, Franklin Co.	Gravel	43.67	-0.58	+0.35	-1.33
H-1	Harrison, Hamilton Co.	Gravel	23.35	-1.95	+0.58	-1.95
Hn-2a	Dola, Hardin Co.	Dolomite	7.10	+0.24	+0.76	-0.22
Po-1	Windham, Portage Co.	Sandstone	22.05	-1.65	+0.16	-0.23
Tu-1	Strasburg, Tuscarawas Co.	Gravel	15.03	-2.89	+0.70	-1.61

GROUND-WATER LEVELS



Base periods: H-1, 1951-1990. Hn-2a, 1955-1990. Po-1, 1947-1990
Record high and low, year of occurrence

Normal - - - - Current - - - -



MONTHLY WATER INVENTORY REPORT FOR OHIO

March 1995

Compiled By David H. Cashell
Hydrologist
Water Inventory Unit

(continued from front page)

water supplies, but significant improvement is doubtful. Near normal precipitation, distributed evenly throughout the upcoming growing season will benefit agricultural crops and reduce demand on private and public water supplies, but do little to improve the ground water storage situation.

SUMMARY

Precipitation was noticeably below normal across Ohio with the March 1995 state average of 1.77 inches ranking as the sixteenth driest March during the past 113 years. Streamflow was below normal statewide. Reservoir storage increased in the Mahoning basin and decreased slightly in the Scioto basin. Ground water storage improved slightly but remains at noticeably below normal seasonal levels in most aquifers throughout the state. Lake Erie level rose slightly and was 0.98 foot above the long-term March average.

NOTES AND COMMENTS

WMAO ANNUAL SPRING MEETING

The Water Management Association of Ohio (WMAO) will offer an exciting opportunity for water resources professionals interested in dam safety, floodplain management, and stormwater management. WMAO's 1995 Spring Meeting will include three workshops focusing on these important issues. The meeting will be on May 9, 1995 at the Holiday Inn East in Columbus, Ohio. The registration cost is \$25.

The morning general session will include presentations on historic flooding problems and their effect on dam safety and floodplain management. It will also cover current efforts to reduce the impact of floods and to improve the quality of urban runoff. The afternoon workshops will focus individually on specific floodplain management, dam safety, and stormwater management topics.

Contact Patti Berenstein with the Division of Water at (614) 265-6731 for registration information.

PRECIPITATION during March was noticeably below normal throughout Ohio. The state average was 1.77 inches, 1.61 inches below normal. For the state as a whole, this ranks as the sixteenth driest March during the past 113 years. Regional averages ranged from 2.20 inches, 1.72 inches below normal, for the Southwest Region to 1.51 inches, 1.86 inches below normal, for the Central Region. Perintown (Clermont County) reported the greatest amount of precipitation for March, 2.96 inches; Huntington Tri-State Airport, West Virginia reported 3.04 inches which may indicate that more than 3 inches of precipitation fell in extreme southern Ohio. Congress (Wayne County) reported the least amount of precipitation during March, 0.73 inch.

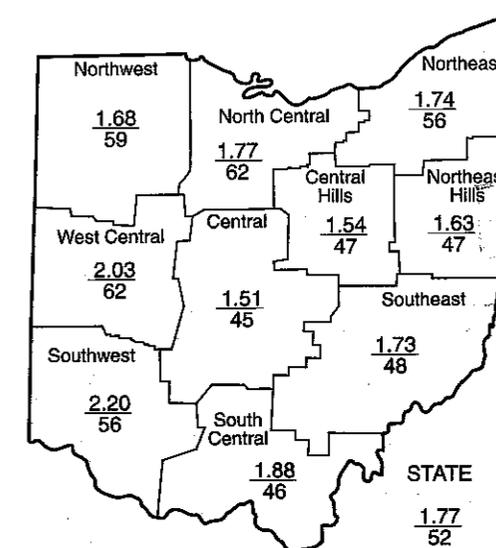
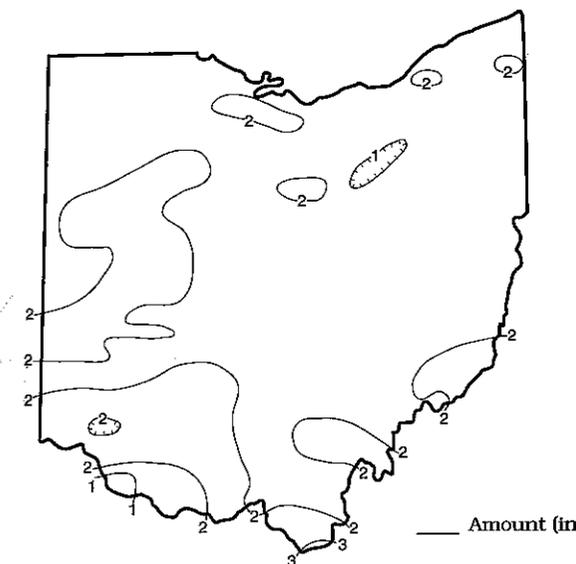
Most of the precipitation during March fell during the first ten days of the month. The middle of the month was unusually dry and only nominal amounts of precipitation fell in most areas of the state during the last ten days of the month. Most of the month's precipitation for nearly all areas of Ohio fell during March 5-9. Scattered showers started on March 5 with heavier storms developing by March 7-8. The rain changed to snow on March 8. Most of Ohio received more than 1 inch of precipitation during this period with some areas reporting nearly 2 inches. Warm, dry weather dominated Ohio during the next ten days of the month. Scattered showers returned during March 20-23 and March 27-31. Precipitation totals during this period were generally around 0.25 inch with some areas reporting slightly more than 0.5 inch.

Precipitation for the 1995 calendar year is below normal throughout most of the state with only the North Central Region having slightly above normal precipitation. The state average is 6.99 inches, 1.39 inches below normal. Regional averages range from 8.52 inches, 1.72 inches below normal, for the South Central Region to 5.28 inches, 1.61 inches below normal, for the Northwest Region. So far in calendar year 1995, the North Central Region averages 7.06 inches of precipitation which is 0.03 inch above normal (see Precipitation table, departure from normal, past three months column).

Precipitation for the first half of the 1995 water year is below normal throughout the state. The state average is 13.56 inches, 2.39 inches below normal. Regional averages range from 15.33 inches, 2.88 inches below normal, for the South Central Region to 11.11 inches, 4.30 inches below normal, for the West Central Region (see Precipitation table, departure from normal, past six months column). Precipitation during the 1995 water year recharge period has not been favorable for ground water supplies. The fall months (September, October, November) were noticeably dry ranking as the tenth driest fall during the past 100 years. Precipitation was near or slightly above normal during December and January, but noticeably dry weather returned in February and March. Ample precipitation during April could still benefit ground

(continued on back)

PRECIPITATION MARCH 1995



Average (in)
Percent of normal

PRECIPITATION

Region	DEPARTURE FROM NORMAL (IN.)					Palmer Drought Severity Index*
	This Month	Past				
		3 Mos.	6 Mos.	12 Mos.	24 Mos.	
Northwest	-1.19	-1.61	-1.91	-5.11	-7.36	-1.9
North Central	-1.09	+0.03	-0.78	-1.43	-4.43	-1.0
Northeast	-1.37	-0.33	-1.32	+0.74	+2.85	-0.6
West Central	-1.23	-2.72	-4.30	-7.15	-2.01	-2.6
Central	-1.86	-1.23	-2.39	-4.19	-2.33	-1.1
Central Hills	-1.72	-0.20	-1.37	-0.72	-0.27	-1.1
Northeast Hills	-1.82	-1.88	-2.30	-1.93	+0.99	-1.3
Southwest	-1.72	-3.17	-4.47	-4.79	-6.31	-1.5
South Central	-2.21	-1.72	-2.88	-3.43	-3.77	-1.1
Southeast	-1.89	-1.17	-2.27	-1.23	-0.79	-1.2
State	-1.61	-1.39	-2.39	-2.91	-2.31	

*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

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 Consergency 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.



DIVISION OF WATER
1939 FOUNTAIN SQUARE
COLUMBUS, OHIO 43224

George V. Vohnovich
Governor

Donald C. Anderson
Director

Michelle Willis
Chief

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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	1,437	75	90	76	76
Great Miami River at Hamilton	3,630	3,874	65	48	43	64
Huron River at Milan	371	406	58	75	72	76
Killbuck Creek at Killbuck	464	554	59	91	86	81
Little Beaver Creek near East Liverpool	496	633	54	64	82	75
Maumee River at Waterville	6,330	7,698	60	64	57	59
Muskingum River at McConnelsville	7,422	10,650	66	91	87	86
Scioto River near Prospect	567	834	86	77	63	76
Scioto River at Higby	5,131	7,218	79	81	74	85
Stillwater River at Pleasant Hill	503	482	58	38	34	46

STREAMFLOW during March was noticeably below normal throughout Ohio. Flows in the eastern and west-central Ohio drainage basins were low enough to be considered deficient. Flows during March were greater than the flows recorded during February throughout most of the state.

Flows at the beginning of the month were above normal in the central and northeastern areas of the state but below normal elsewhere. Flows declined during the first week of March but began to rise following the month's greatest precipitation and snowmelt during March 5-9. The greatest flows in March occurred during or just after this period. Flows generally declined through the end of the month at which time the lowest flows in March were observed. Streamflows at the end of March

were noticeably below normal throughout the state.

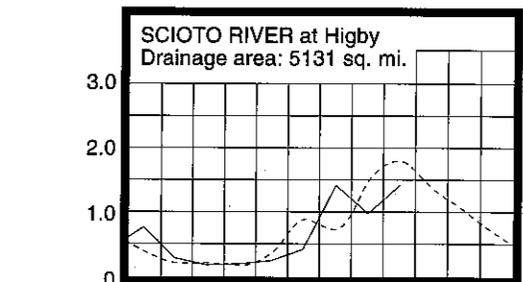
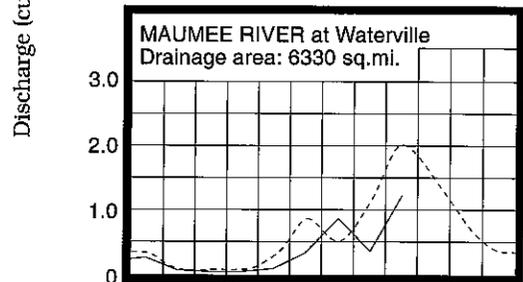
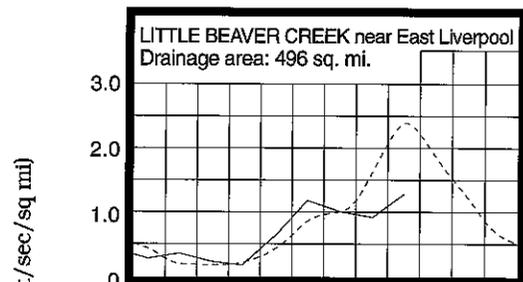
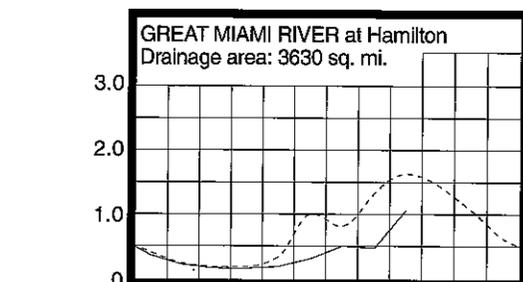
Streamflow during the past six months has been below normal throughout the state (see Mean Stream Discharge table, percent of normal, past six months column). Flows have been the most noticeably below normal in the western half of Ohio where the precipitation during the same period has been the most deficient. In spite of the below normal streamflows, surface water supplies in both on and off-stream reservoirs remain adequate throughout Ohio.

RESERVOIR STORAGE for water supply during March increased in the Mahoning basin reservoirs and decreased slightly in the Scioto basin reservoirs. Storage remained slightly above normal in the Scioto basin index reservoirs but fell to below normal in the Mahoning basin index reservoirs.

Reservoir storage at the end of March in the Mahoning basin index reservoirs was 85 percent of rated capacity for water supply compared with 77 percent for last month and 97 percent for March 1994. Month-end storage in the Scioto basin index reservoirs was 103 percent of rated capacity for water supply compared with 104 percent for last month and 104 percent for March 1994.

As mentioned above, surface water supplies remain adequate throughout Ohio. Most recreational and flood control reservoirs will fill to summer pool level during April. Off-stream reservoir managers may still have the opportunity to select high streamflow periods to fill or top-off reservoirs if necessary.

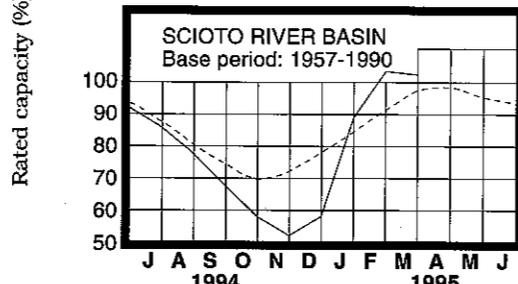
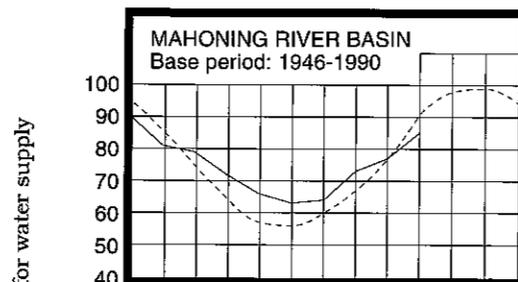
MEAN STREAM DISCHARGE



Base period for all streams: 1961-1990

Normal - - - - - Current - - - - -

RESERVOIR STORAGE FOR WATER SUPPLY



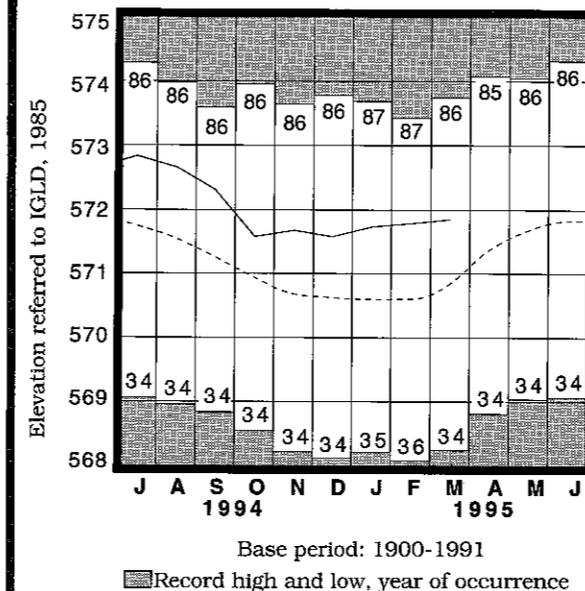
GROUND WATER LEVELS during March showed some improvement throughout the state. Much of the improvement can be related to the precipitation that fell during March 5-9. However, net changes from last month's levels were less than usually observed in most aquifers. Levels in most aquifers rose through the middle of the month and then declined through the end of the month; levels in some deeper aquifers, especially consolidated aquifers, gradually rose throughout the month.

Ground water storage continues to remain at noticeably below normal levels throughout most of the state. The greatest departures remain in the eastern half of the state, but some aquifers in west-central and southwestern Ohio are showing similar situations. Some recharge can be expected during April and if climatic conditions are favorable, even during May, but chances are poor that ground water storage will be able to reach normal levels before the summer season begins.

Current ground water levels also continue to remain noticeably lower than they were a year ago in most aquifers. Current levels in many areas of the state are also lower than those levels observed during March 1988, a period prior to the onset of severe early-summer drought conditions. This statement is not meant to be alarmist since many factors are involved in producing a drought; however, water supply managers with ground water sources are urged to closely monitor their situations throughout the remainder of the recharge season and the summer high-demand period. Levels should continue to be closely monitored through the fall months at least, or until factors favoring significant recharge are observed.

LAKE ERIE level rose slightly during March. The mean level was 571.85 feet (IGLD-1985), 0.07 foot above last month's mean level and 0.98 foot above normal. This month's level is 0.03 foot above the March 1994 level and 2.65 feet above Low Water Datum.

LAKE ERIE LEVELS at Fairport

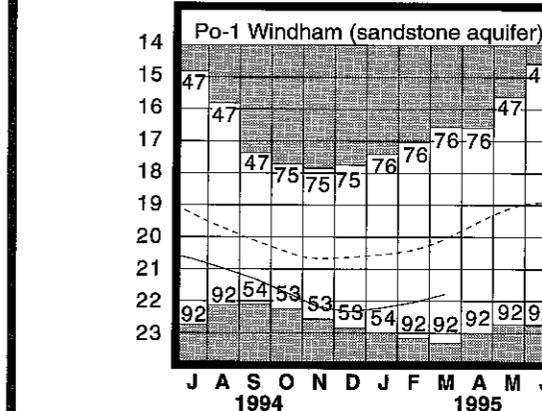
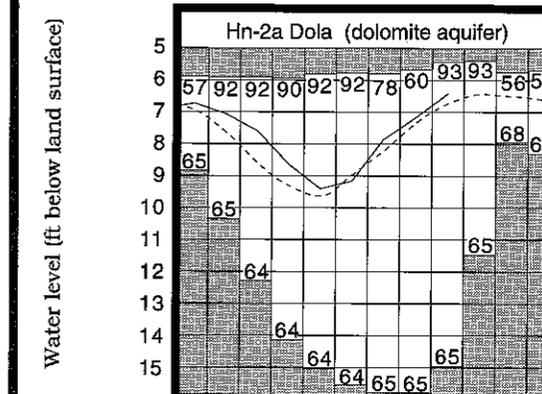
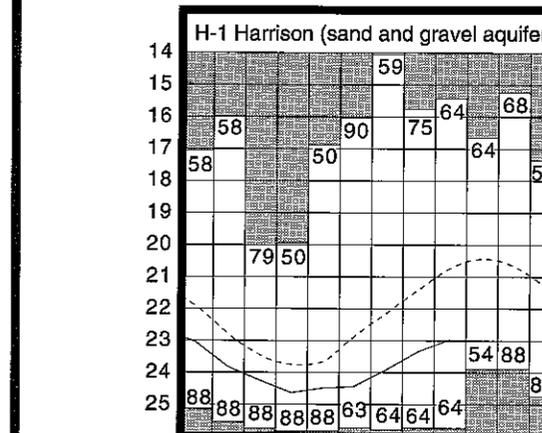


GROUND-WATER LEVELS

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	15.22	-1.91	+2.26	-1.46
Fa-1	Jasper Mill, Fayette Co.	Limestone	7.09	-0.24	+0.42	+0.20
Fr-10	Columbus, Franklin Co.	Gravel	43.24	-0.57	+0.43	-1.32
H-1	Harrison, Hamilton Co.	Gravel	22.98	-2.27	+0.37	-0.65
Hn-2a	Dola, Hardin Co.	Dolomite	6.43	+0.35	+0.67	+0.03
Po-1	Windham, Portage Co.	Sandstone	21.80	-1.77	+0.25	-0.24
Tu-1	Strasburg, Tuscarawas Co.	Gravel	14.60	-3.20	+0.43	-2.09

GROUND-WATER LEVELS



Base periods: H-1, 1951-1990. Hn-2a, 1955-1990. Po-1, 1947-1990
Record high and low, year of occurrence

Normal - - - - - Current - - - - -



MONTHLY WATER INVENTORY REPORT FOR OHIO

April 1995

Compiled By David H. Cashell
Hydrologist
Water Inventory Unit

SUMMARY

Precipitation was above normal throughout most of Ohio but below normal in the eastern and south-central areas of the state. Streamflow was below normal in most drainage basins but above normal in the northwestern and north-central areas of the state. Reservoir storage improved and was at near normal seasonal levels. Ground water storage had mixed responses generally reflecting the month's precipitation within each region. Lake Erie level rose 0.26 foot and was 0.72 foot above the long-term April average.

NOTES AND COMMENTS

NEW PUBLICATIONS

The Division of Water announces the availability of the following new publications:

Ground Water Pollution Potential of Champaign County
by Wayne Jones

Ground Water Pollution Potential of Clark County
by Joel D. Vormelker, Michael P. Angle and Wayne Jones

Ground water pollution potential maps are designed to determine an area's relative vulnerability to ground water pollution. The maps can be used as a planning and management tool for administrators, commissioners, zoning boards and others to aid in making educated decisions about local development and siting of land use operations or activities that can affect ground water quality. The system optimizes the use of existing data to rank areas with respect to pollution potential to help direct investigations and resource expenditures and to prioritize protection, monitoring, and clean-up efforts.

Mapping an area's potential for ground water pollution is a relatively new idea. These maps use the DRASTIC system as developed for the U.S. Environmental Protection Agency by the National Ground Water Association. DRASTIC values, as shown on the maps, indicate an area's relative vulnerability to contamination through the use of a numerical rating scheme and the mapping of hydrogeologic settings. Low DRASTIC values indicate relatively low potential and high DRASTIC values indicate a high potential for contamination. Areas of similar DRASTIC values are color-coded for ease of interpretation.

Each ground water pollution potential map with its accompanying report costs \$10.00. They can be purchased at or ordered from the address listed below.

ODNR Division of Water
Water Resources Section
1939 Fountain Square, Building E-1
Columbus, Ohio 43224-1336
Phone (614) 265-6740

Make checks payable to ODNR Division of Water. If publications are ordered through the mail, please be sure to include the correct postage and handling charges as shown below. Payments can also be made with Visa or MasterCard.

Postage and Handling Charges

Cost of Publications	Add
under \$10.01	\$2.00
\$10.01 - \$20.00	\$3.00
\$20.01 - \$50.00	\$5.00
\$50.01 - \$100.00	\$8.50
\$100.01 and over	\$10.00

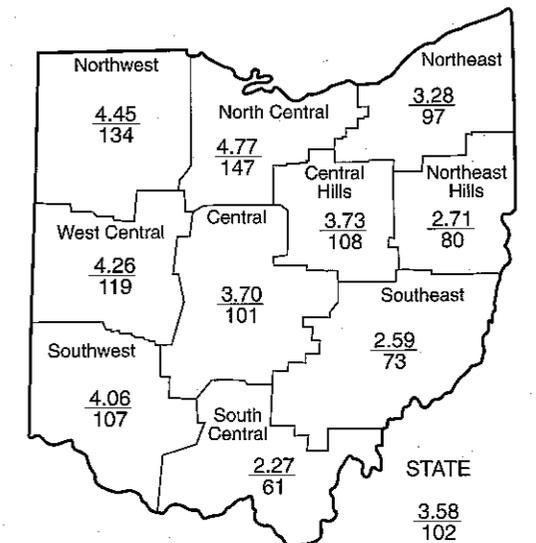
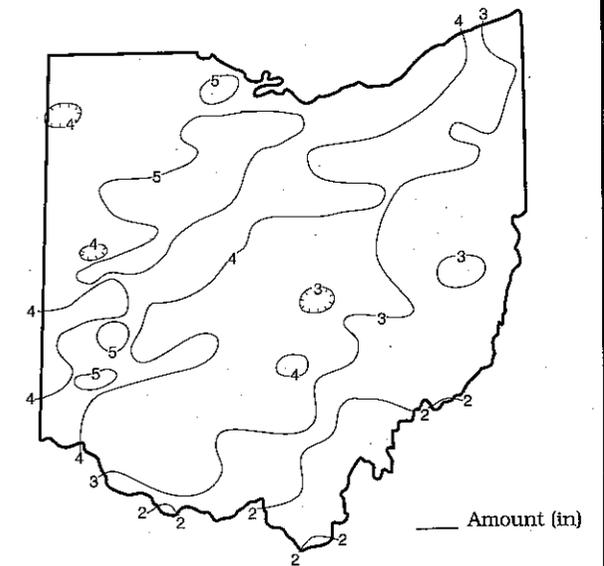
PRECIPITATION during April was above normal throughout most of Ohio but was below normal in the eastern and south-central areas of the state. The state average was 3.58 inches, 0.07 inch above normal. Regional averages ranged from 4.77 inches, 1.52 inches below normal, for the North Central Region to 2.27 inches, 1.47 inches below normal, for the South Central Region. Upper Sandusky (Wyandot County) reported the greatest amount of precipitation for the month, 5.88 inches. Gallipolis Locks and Dam (Gallia County) reported the least amount, 1.33 inches.

Precipitation during April fell almost entirely as rain with only minor amounts of snow reported. Precipitation for the month fell in a somewhat atypical pattern, being least in the south and east and generally increasing in amount to the north and west. Many areas of the state, especially the northern half, had numerous days with measurable precipitation. Showers and thunderstorms were widespread during April 8-12, especially in the northwestern area of the state where amounts of 2 inches were reported at some locations. Most of the heaviest storms occurred during April 9-10. Many areas in the central and western areas of the state had storms during April 21-23 with many locations reporting between 1 and 2 inches of rain. Most areas of the state reported little precipitation during the last week of the month.

Precipitation for the 1995 calendar year is below normal throughout most of the state but slightly above normal in the North Central and Central Hills regions. The state average is 10.57 inches, 1.32 inches below normal. Regional averages range from 11.83 inches, 1.55 inches above normal, for the North Central Region to 9.34 inches, 2.57 inches below normal, for the Northeast Hills Region.

Precipitation for the 1995 water year is below normal throughout most of Ohio with only the North Central Region having slightly above normal precipitation. The state average is 17.14 inches, 2.32 inches below normal. Regional averages range from 18.07 inches, 1.43 inches below normal, for the Northeast Region to 15.37 inches, 3.62 inches below normal, for the West Central Region. The end of the 1995 water year recharge season is rapidly approaching. Conditions have not favored significant improvement in ground water storage. Adequate precipitation evenly distributed during the upcoming growing season will benefit agricultural crops and potentially reduce demand on public and private water supplies.

PRECIPITATION APRIL 1995



PRECIPITATION

Region	DEPARTURE FROM NORMAL (IN.)					Palmer Drought Severity Index*
	This Month	Past				
		3 Mos.	6 Mos.	12 Mos.	24 Mos.	
Northwest	+1.14	-1.11	+0.63	-5.31	-6.93	-0.9
North Central	+1.52	-0.56	+2.20	-0.64	-3.68	+0.5
Northeast	-0.11	-1.97	-0.18	-1.35	+2.55	-0.5
West Central	+0.68	-1.69	-1.98	-6.52	-2.15	-2.5
Central	+0.04	-2.67	-0.97	-4.61	-2.87	-0.8
Central Hills	+0.28	-2.26	+0.42	-1.85	-1.06	-1.0
Northeast Hills	-0.69	-3.15	-1.24	-3.28	+0.02	-1.2
Southwest	+0.25	-2.70	-2.80	-7.07	-6.85	-1.6
South Central	-1.47	-4.61	-3.07	-6.15	-4.50	-1.7
Southeast	-0.95	-3.32	-1.75	-3.49	-1.75	-1.6
State	+0.07	-2.40	-0.86	-4.02	-2.69	

*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
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-1.0 To -1.9 = Mild Drought
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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.



DIVISION OF WATER
1939 FOUNTAIN SQUARE
COLUMBUS, OHIO 43224

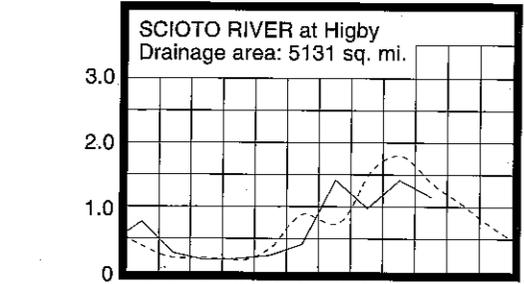
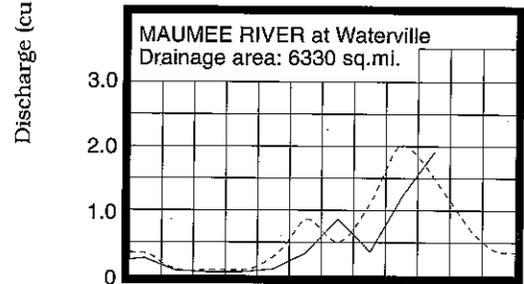
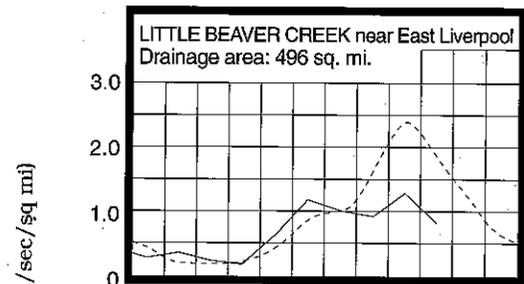
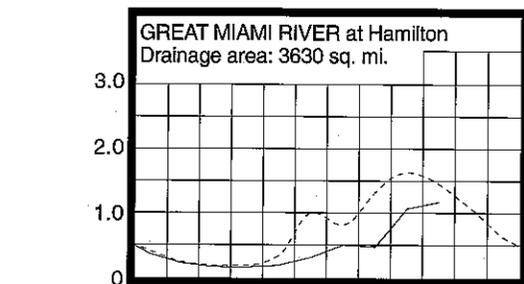
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MEAN STREAM DISCHARGE

River and Location	Drainage Area (Sq. Mi.)	Mean Discharge (CFS)	This Month % of Normal	% of Normal Past		
				3 Mos.	6 Mos.	12 Mos.
				Grand River near Painesville	685	1,255
Great Miami River at Hamilton	3,630	4,245	80	53	50	56
Huron River at Milan	371	715	138	81	82	74
Killbuck Creek at Killbuck	464	422	56	55	75	65
Little Beaver Creek near East Liverpool	496	406	45	53	72	63
Maumee River at Waterville	6,330	12,092	126	73	71	58
Muskingum River at McConnelsville	7,422	7,905	52	63	81	72
Scioto River near Prospect	567	1,344	165	87	81	80
Scioto River at Higby	5,131	5,876	83	67	71	75
Stillwater River at Pleasant Hill	503	604	84	46	44	42

MEAN STREAM DISCHARGE



Base period for all streams: 1961-1990

Normal - - - - Current

STREAMFLOW during April was below normal in most areas of the state but above normal in northwestern and north-central Ohio drainage basins. Flows in some eastern Ohio drainage basins were low enough to be considered deficient. Flows in the southern and eastern areas of the state decreased seasonally during April while flows in western and north-central Ohio drainage basins were greater than the flows recorded during March.

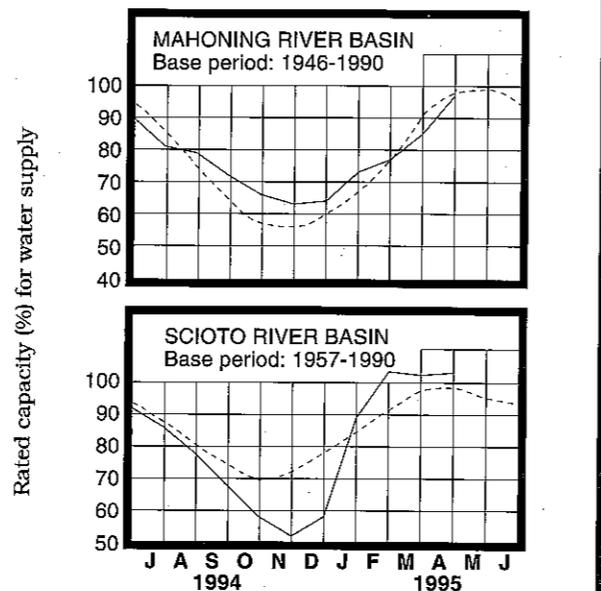
Flows at the beginning of April were noticeably below normal throughout the state. Lowest flows for April were recorded randomly during the first eight days of the month throughout the state. Flows peaked during three periods following widespread regional precipitation. Minor flooding was

reported in the northwestern and north-central areas of Ohio. Greatest flows in the northern area of the state were observed during April 10-12, in the eastern drainage basins during April 14-15, and in southern Ohio during April 22-23. Flows decreased during the last week of the month and had returned to noticeably below normal levels at the month's end.

RESERVOIR STORAGE for water supply during April increased seasonally in both the Mahoning and Scioto river basin reservoirs. Storage remained above normal in the Scioto basin index reservoirs and slightly below normal in the Mahoning basin index reservoirs.

Reservoir storage at the end of April in the Mahoning basin index reservoirs was 97 percent of rated capacity for water supply compared with 85 percent for last month and 101 percent for April 1994. Month-end storage in the Scioto basin index reservoirs was 104 percent of rated capacity for water supply compared with 103 percent for last month and 103 percent for April 1994. Surface water supplies are at favorable levels for this time of the year.

RESERVOIR STORAGE FOR WATER SUPPLY



GROUND WATER LEVELS during April showed mixed responses around the state, generally reflecting the respective regional month's precipitation. Ground water storage improved in most northern and western Ohio aquifers while declining in most aquifers in the eastern and southern areas of the state. Declines in ground water levels are an exception to the norm for April. In aquifers where levels rose, net changes from last month's levels were less than usually observed.

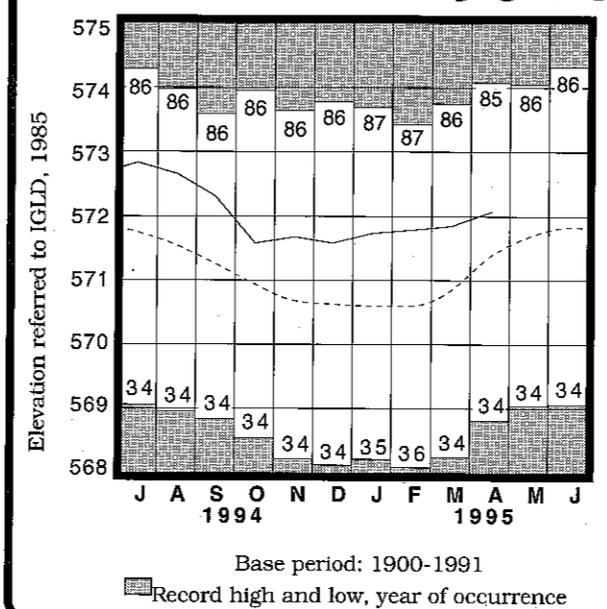
Ground water storage continues to remain at below normal levels throughout most of the state. The greatest departures continue to exist in the eastern half of the state, but some aquifers in southwestern Ohio are showing similar departures. Index observation well Tu-1 (Tuscarawas County), representing sand and gravel aquifers in eastern and northeastern Ohio, reached its lowest April level ever observed during its more than 47 years of record.

Current ground water levels also continue to remain lower than they were a year ago, ranging up to more than three feet lower than the April 1994 levels in some eastern Ohio aquifers. Adequate precipitation during the summer growing season will benefit agricultural crops and reduce demand on public and private water supplies, but does little to improve the overall ground water storage situation. Water supply managers with ground water sources should continue to closely monitor their situations and plan accordingly.

LAKE ERIE level rose seasonally during April. The mean level was 572.11 feet (IGLD-1985), 0.26 foot above last month's mean level and 0.72 foot above normal. This month's level is 0.36 foot lower than the April 1994 level and 2.91 feet above Low Water Datum.

The U.S. Army Corps of Engineers reports that precipitation in the Lake Erie basin during April averaged 3.9 inches, 0.8 inch above normal. The entire Great Lakes basin averaged 2.9 inches of precipitation in April, 0.4 inch above normal. For calendar year 1995 through April, the Lake Erie basin has averaged 10.8 inches of precipitation, 0.4 inch above normal and the entire Great Lakes basin has averaged 8.7 inches, 0.1 inch above normal.

LAKE ERIE LEVELS at Fairport



Base period: 1900-1991

Record high and low, year of occurrence

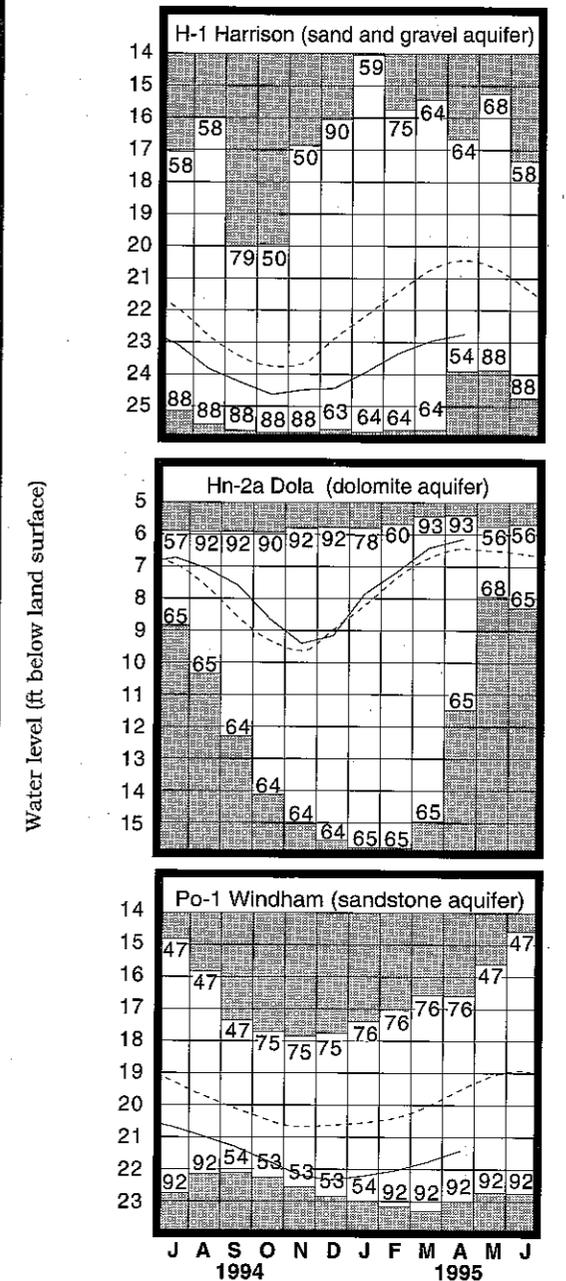
Normal - - - - Current

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	15.75	-3.32	-0.53	-3.06
Fa-1	Jasper Mill, Fayette Co.	Limestone	7.33	-0.59	-0.24	-0.17
Fr-10	Columbus, Franklin Co.	Gravel	42.79	-0.39	+0.45	-1.29
H-1	Harrison, Hamilton Co.	Gravel	22.77	-2.34	+0.21	-1.45
Hn-2a	Dola, Hardin Co.	Dolomite	6.19	+0.28	+0.24	-0.11
Po-1	Windham, Portage Co.	Sandstone	21.43	-1.91	+0.37	-0.77
Tu-1	Strasburg, Tuscarawas Co.	Gravel	14.78	-3.98	-0.18	-3.17

GROUND-WATER LEVELS



Base periods: H-1, 1951-1990; Hn-2a, 1955-1990.

Po-1, 1947-1990 Record high and low, year of occurrence

(continued from front page)

Precipitation for the 1995 calendar year is now above normal throughout most of Ohio but remains slightly below normal in the Northwest and Northeast Hills regions. The state average is 16.54 inches, 0.90 inch above normal. Regional averages range from 19.65 inches, 2.15 inches above normal, for the Southwest Region to 13.47 inches, 0.27 inch below normal, for the Northwest Region.

Precipitation for the 1995 water year remains slightly below normal throughout much of Ohio but is above normal in the North Central, Central Hills and Southwest regions. The state average is 23.11 inches, 0.10 inch below normal. Regional averages range from 26.54 inches, 0.85 inch above normal, for the Southwest Region to 20.20 inches, 0.57 inch below normal, for the Northwest Region.

SUMMARY

Precipitation was above normal throughout the state. The state average was 5.97 inches which ranks this May as the eighth wettest on record. Streamflow was above normal in all but the northwestern and northeastern areas of the state. Flooding occurred in several southern and southeastern counties. Reservoir storage increased and was at above normal seasonal levels. Ground water storage improved but remained at below normal levels in the eastern half of the state. Lake Erie level rose 0.20 foot and was 0.62 foot above the long-term May average.

NOTES AND COMMENTS

ASSISTANT CHIEF NAMED FOR THE DIVISION OF WATER

Division of Water Chief Michele Willis recently announced the appointment of Richard S. Bartz as assistant chief of the Division of Water. Mr. Bartz started working for ODNR in 1974 with the Division of Planning developing an Ohio coastal management program. In 1975, he temporarily left Ohio and worked for Indiana DNR on a natural resource inventory for the Lake Michigan shoreline area. He returned to Ohio in 1976 where he joined the Division of Water working on Ohio's coastal management efforts.

Mr. Bartz has represented Ohio on the International Joint Commission's study for the Lake Levels Reference, the Water Resources Management Committee to the Council of Great Lakes Governors and the Water Data Task Force to the Great Lakes Commission. He was instrumental in the passage of Ohio's coastal management legislation, Sub. S.B. 70 and H.B. 662, the Great Lakes Charter.

Richard has served as administrator of the Division of Water's Water Resources Development Section (now the Water Planning and Management Section) where he was responsible for the division's efforts in water supply planning, community water assistance, floodplain management, water withdrawal facility registration and coastal management. Most recently, Mr. Bartz was on a temporary reassignment for ten months as Executive Assistant to the Water Resources Planning and Development Implementation Committee.

Chief Willis praised Mr. Bartz's contributions to water resources policy and planning during the past 21 years. His new responsibilities as assistant chief will include long range planning, legislation, training coordination, public information and QStP Guidance Committee member.

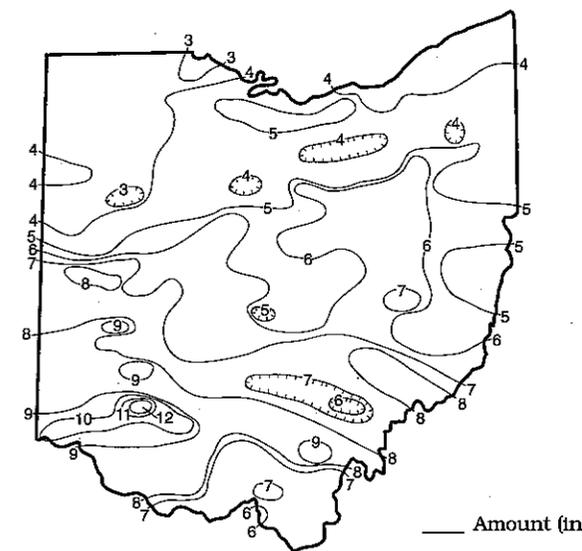


MONTHLY WATER INVENTORY REPORT FOR OHIO

May 1995

Compiled By David H. Cashell
Hydrologist
Water Inventory Unit

PRECIPITATION MAY 1995



PRECIPITATION for May was above normal throughout most of Ohio especially in the southern half of the state where it was excessive. The state average was 5.97 inches, 2.22 inches above normal. This ranks as the eighth wettest May for the state as a whole during the past 113 years. Regional averages ranged from 8.99 inches, 5.07 inches above normal, for the Southwest Region to 3.74 inches, 0.20 inch above normal, for the Northwest Region. This was the third wettest May on record for the Southwest Region, the fifth wettest for the West Central Region, the sixth wettest for the South Central Region and the seventh wettest for the Southeast Region. Stonelick State Park (Clermont County) reported the greatest amount of precipitation during May, 12.92 inches. Lima (Allen County) reported the least amount, 2.84 inches.

Precipitation fell during every week in May. The first week of May was somewhat drier than the remainder of the month in some areas, but there were still several days with measurable precipitation. The northern areas of the state generally reported less than 0.5 inch of rain during this period with amounts increasing to the south where extreme southern Ohio reported more than 1 inch. The first of a series of storms crossed Ohio during May 9-10 with most areas of the state receiving between 0.5 and 1 inch of rain. Strong storms in the southern half of Ohio during May 13-14 resulted in flash flooding of small streams and urban areas in areas where more than 3 inches of rain was reported. Hardest hit were Gallia, Meigs, Ross and Vinton counties with damage also reported in Preble, Lawrence and other counties. More storms during May 17-18 caused secondary stream and main stem flooding in the southern half of Ohio after 1 to 3 inches of rain fell throughout most of the state. The last ten days of the month continued to be very wet with storms widespread during May 24-25 and 28-29. Most areas of Ohio received between 1 and 2 inches of rain during these storms, but some areas, especially in the southwestern area of Ohio, received greater amounts which resulted in some localized flooding.

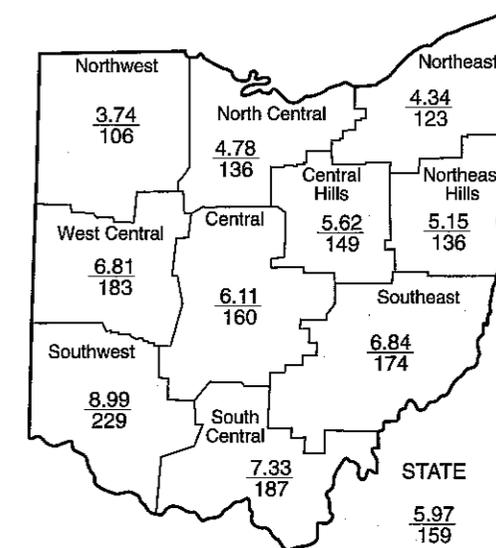
The above normal precipitation during May was beneficial for water supplies, but has caused a delay in planting of agricultural crops. At the end of May, the Ohio Agricultural Statistics Service reports that soils in two-thirds of the state have a surplus of moisture. The above normal precipitation erased the mild drought conditions in most areas of Ohio that were present at the end of April, but the Palmer Drought Severity Index indicates that portions of northern and western Ohio still have a slight long-term moisture deficit.

(continued on back)

PRECIPITATION

Region	DEPARTURE FROM NORMAL (IN.)					Palmer Drought Severity Index*
	This Month	Past				
		3 Mos.	6 Mos.	12 Mos.	24 Mos.	
Northwest	+0.20	+0.15	-0.03	-3.08	-5.19	-1.0
North Central	+1.27	+1.70	+3.20	+2.16	-0.25	+0.7
Northeast	+0.81	-0.67	+0.47	+0.87	+5.67	-0.8
West Central	+3.09	+2.54	+0.72	-2.21	+1.62	-0.6
Central	+2.30	+0.48	+0.98	-0.83	+0.99	+0.7
Central Hills	+1.85	+0.41	+2.07	+1.45	+2.38	+0.3
Northeast Hills	+1.37	-1.14	-1.22	-1.26	+3.11	+0.2
Southwest	+5.07	+3.60	+1.85	-0.99	-0.79	+1.2
South Central	+3.40	-0.28	+0.25	-2.18	+0.14	+0.2
Southeast	+2.90	+0.06	+0.79	+0.14	+3.23	+1.1
State	+2.22	+0.68	+0.91	-0.59	+1.12	

*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

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.



DIVISION OF WATER
1939 FOUNTAIN SQUARE
COLUMBUS, OHIO 43224

- George V. Voinovich
Governor
- Donald C. Anderson
Director
- Michele Willis
Chief

An Equal Opportunity Employer-M/F/H

MEAN STREAM DISCHARGE

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	552	89	78	82	74
Great Miami River at Hamilton	3,630	9,384	239	94	73	73
Huron River at Milan	371	346	129	90	84	82
Killbuck Creek at Killbuck	464	649	131	76	80	72
Little Beaver Creek near East Liverpool	496	671	116	60	75	68
Maumee River at Waterville	6,330	4,307	85	89	74	62
Muskingum River at McConnelsville	7,422	12,595	129	75	84	80
Scioto River near Prospect	567	1,024	243	136	97	97
Scioto River at Higby	5,131	12,526	237	103	94	90
Stillwater River at Pleasant Hill	503	1,416	367	108	73	66

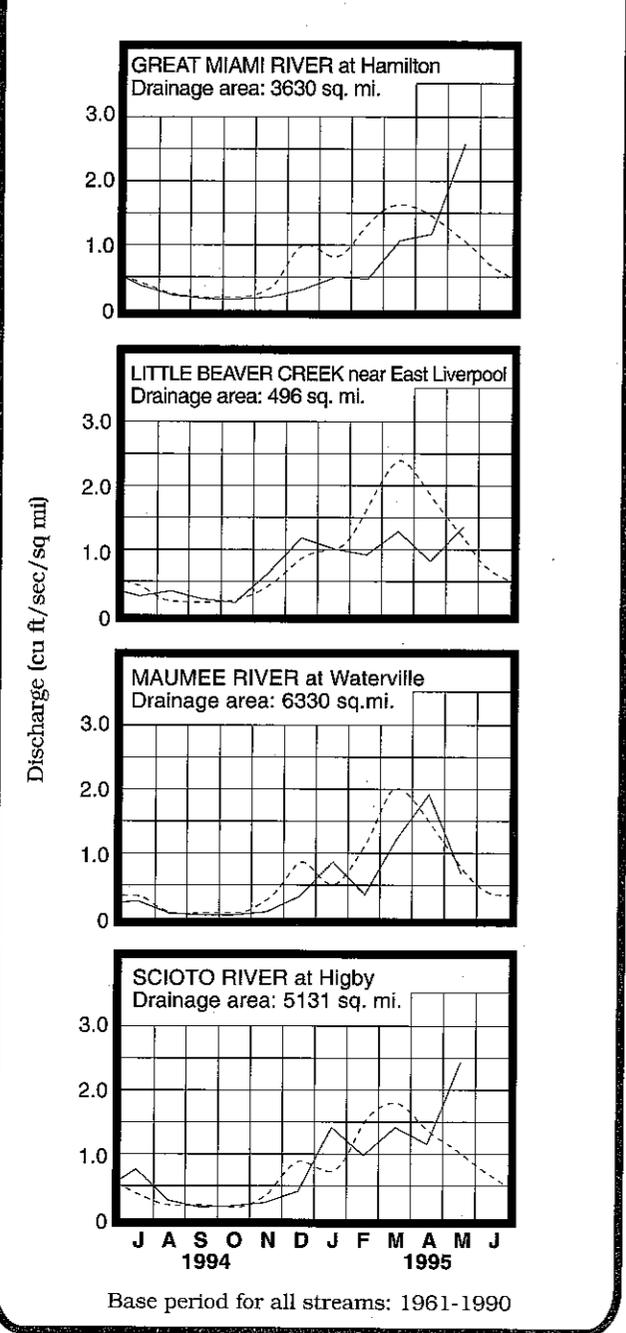
STREAMFLOW during May was above normal throughout most of the state with only northwestern and northeastern Ohio drainage basins having below normal flows. Flows in the southern half of the state were high enough to be considered excessive. Flows in the northern one-third of the state declined seasonally from the April flows, but in the southern two-thirds of the state, flows increased noticeably.

Flows at the beginning of May were below normal throughout the state. Most areas recorded the month's lowest flows on or about May 8, just prior to the arrival of the first of a series of storms to cross the state. Heavy storms resulted in flash flooding especially in Ross, Gallia and Meigs counties following storms during May 13-14. Flooding was also reported in the southern half of the state following thunderstorms on May 17-18. Greatest flows for the month occurred during May 19-21 following these storms. At the end of May, flows were noticeably above normal throughout the state.

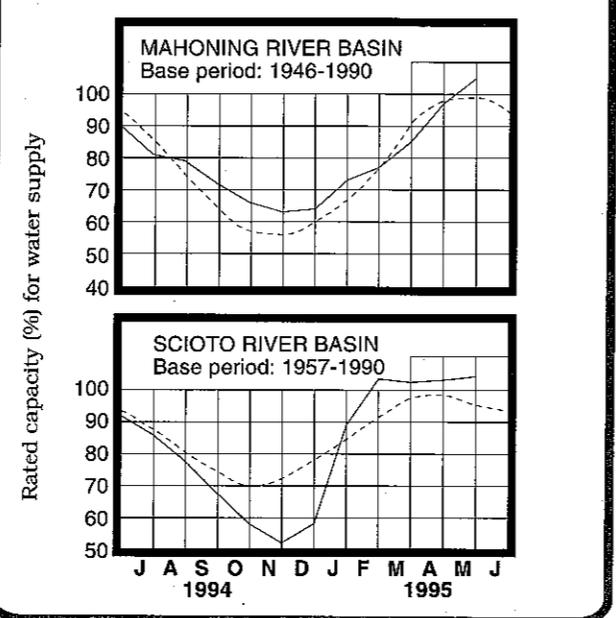
RESERVOIR STORAGE for water supply during May increased in both the Mahoning and Scioto river basins. Storage was above normal in both basins.

Reservoir storage at the end of May in the Mahoning basin index reservoirs was 105 percent of rated capacity for water supply compared with 97 percent for last month and 98 percent for May 1994. Month-end storage in the Scioto basin index reservoirs was 105 percent of rated capacity for water supply compared with 104 percent for last month and 98 percent for May 1994. Surface water supplies are in very good shape throughout Ohio.

MEAN STREAM DISCHARGE



RESERVOIR STORAGE FOR WATER SUPPLY



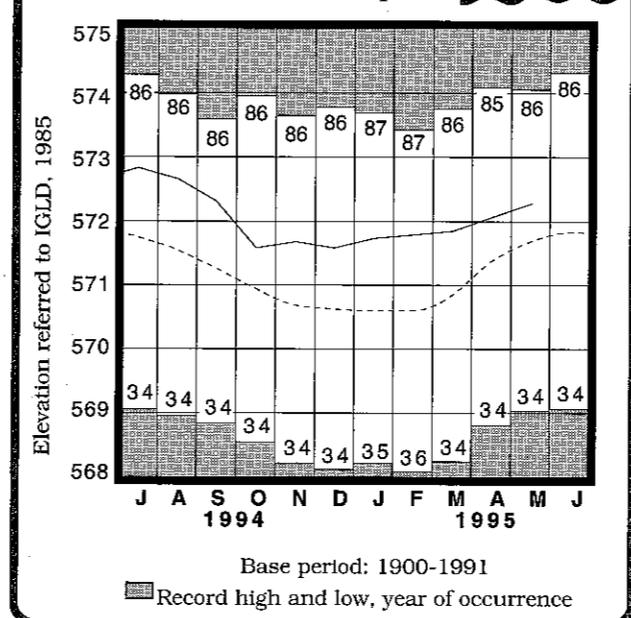
GROUND WATER LEVELS during May rose in most aquifers throughout Ohio. A few exceptions were noted in the northwestern area of the state where ground water levels were stable or declined slightly, reflecting the near normal regional precipitation. Net changes from last month's levels were unseasonably positive in most shallow aquifers, especially in unconsolidated aquifers in the southern half of the state. Net changes in most consolidated aquifers in the northern half of the state were less than normally observed. Generally, ground water levels were stable or declining slowly during the first ten days of the month and then began rising following widespread precipitation.

Following the noticeably above normal precipitation in many areas of Ohio during May, ground water storage has improved to near normal levels in the western half of the state; however, storage continues to remain at noticeably below normal levels in the eastern half of Ohio, ranging up to more than three feet below normal. As a case in point, index observation well Tu-1 (Tuscarawas County), representing sand and gravel aquifers in eastern and northeastern Ohio, reached the lowest May level ever observed during its more than 47 years of record before rising during the second half of the month.

As a result of the above normal precipitation during May, current ground water levels are higher than they were a year ago in many aquifers in the western half of the state. May's abundant precipitation helped close the gap between this year's and last year's levels in the eastern half of the state, but current levels still remain lower than they were a year ago. Some delayed recharge can be expected, especially in consolidated aquifers, and since soil moisture is surplus in many areas of Ohio, near normal precipitation during June might provide some recharge to shallow aquifers. Water supply managers with ground water sources should still continue to monitor their situations throughout the summer months.

LAKE ERIE level rose seasonally during May. The mean level was 572.31 feet (IGLD-1985), 0.20 foot above last month's mean level and 0.62 foot above normal. This month's level is 0.36 foot lower than the May 1994 level and 3.11 feet above Low Water Datum.

LAKE ERIE LEVELS at Fairport

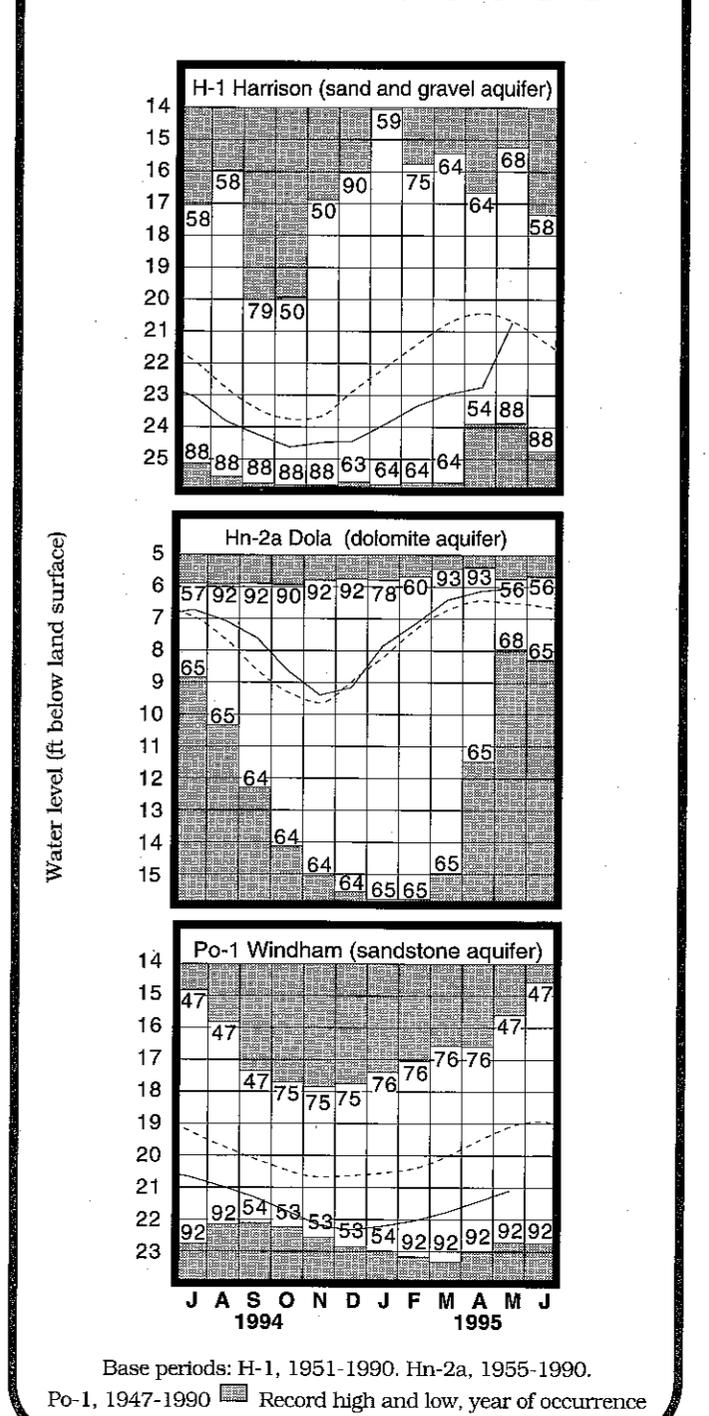


GROUND-WATER LEVELS

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	14.56	-1.84	+1.19	-0.01
Fa-1	Jasper Mill, Fayette Co.	Limestone	7.06	-0.04	+0.27	+0.25
Fr-10	Columbus, Franklin Co.	Gravel	42.43	+0.20	+0.36	-1.07
H-1	Harrison, Hamilton Co.	Gravel	20.76	-0.08	+2.01	+0.79
Hn-2a	Dola, Hardin Co.	Dolomite	6.09	+0.44	+0.10	+0.38
Po-1	Windham, Portage Co.	Sandstone	21.11	-2.02	+0.32	-0.81
Tu-1	Strasburg, Tuscarawas Co.	Gravel	14.61	-3.48	+0.17	-2.38

GROUND-WATER LEVELS



Normal - - - - Current - - - -

Normal - - - - Current - - - -



MONTHLY WATER INVENTORY REPORT FOR OHIO

June 1995

Compiled By David H. Cashell
Hydrologist
Water Inventory Unit

SUMMARY

Precipitation was above normal in most areas of the state but below normal at scattered locations especially in northeastern Ohio. Streamflow was above normal throughout most of Ohio. Reservoir storage was stable or declined slightly but remained at above normal levels. Ground water storage improved from last month and is slightly above normal in the western half of the state but remains below normal in the eastern half. Lake Erie level rose and was 0.59 foot above the long-term June average.

NOTES AND COMMENTS

NEW PUBLICATION

The Division of Water announces the availability of the following new publication:

Ground Water Pollution Potential of Greene County
by Wayne Jones

Ground water pollution potential maps are designed to determine an area's relative vulnerability to ground water pollution. The maps can be used as a planning and management tool for administrators, commissioners, zoning boards and others to aid in making educated decisions about local development and siting of land use operations or activities that can affect ground water quality. The system optimizes the use of existing data to rank areas with respect to pollution potential to help direct investigations and resource expenditures and to prioritize protection, monitoring and clean-up efforts.

Mapping an area's potential for ground water pollution is a relatively new idea. These maps use the DRASTIC system as developed for the U.S. Environmental Protection Agency by the National Ground Water Association. DRASTIC values, as shown on the maps, indicate an area's relative vulnerability to contamination through the use of a numerical rating scheme and the mapping of hydrogeologic settings. Low DRASTIC values indicate relatively low potential and high DRASTIC values indicate a high potential for contamination. Areas of similar DRASTIC values are color-coded for ease of interpretation.

Each ground water pollution potential map with its accompanying report costs \$10.00. They can be purchased at or ordered from the address listed below.

ODNR Division of Water
Water Resources Section
1939 Fountain Square, Building E-1
Columbus, Ohio 43224-1336
Phone (614) 265-6740

Make checks payable to ODNR Division of Water. If publications are ordered through the mail, please be sure to include the correct postage and handling charges as shown below. Payments can also be made with Visa or MasterCard.

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\$20.01 - \$50.00	\$5.00
\$50.01 - \$100.00	\$8.50
\$100.01 and over	\$10.00

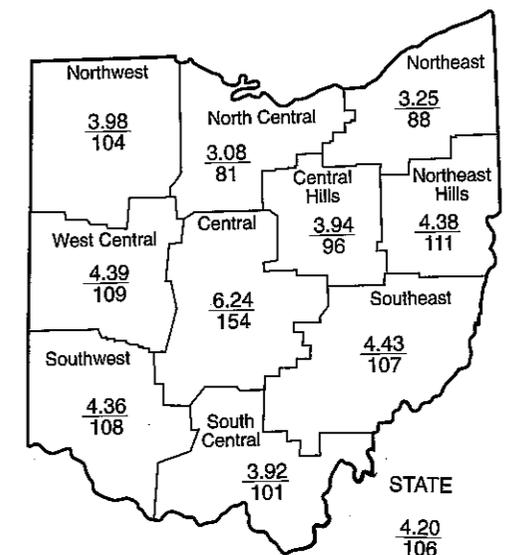
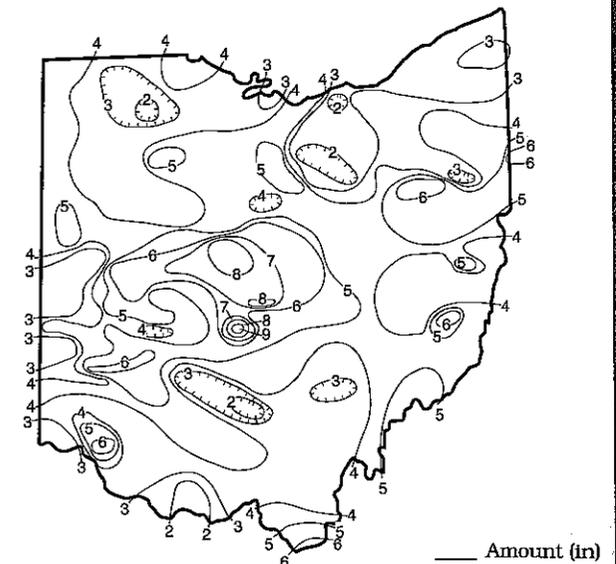
PRECIPITATION for June was above normal throughout most of Ohio but below normal at scattered locations in the southwestern, north-central and northeastern areas of the state. The state average was 4.20 inches, 0.24 inch above normal. Regional averages ranged from 6.24 inches, 2.18 inches above normal, for the Central Region to 3.08 inches, 0.74 inch below normal, for the North Central Region. Columbus Parsons Avenue Water Plant (Franklin County) reported the greatest amount of precipitation for the month, 9.12 inches. Elyria (Lorain County) reported the least amount, 1.52 inches.

Precipitation during June fell as showers and scattered thunderstorms with some storms producing severe weather and large amounts of precipitation. Rain fell during every week of June, but in many locations the middle of the month was the driest. Most areas of the state received about 0.75 inch of rain during the first week of the month. Locally severe storms on June 7 caused much damage in Knox County. Through June 12, storms continued to be widespread, but common statewide with many areas in central and southeastern Ohio reporting more than 1 inch during the second week of the month. Showers became very widely scattered during the third week of June with most areas reporting less than 0.5 inch of rain and some areas almost nothing. The last ten days of the month were very summer-like with convective thunderstorms common throughout the period. Most areas of the state reported more than 1 inch of precipitation during this period with many locations reporting much more. Some locations in central Ohio reported more than three inches of rain during June 26-27.

Precipitation for the first half of the 1995 calendar year is above normal throughout most of Ohio but slightly below normal in the Northwest, North Central and Northeast Hills regions. The state average is 20.74 inches, 1.14 inches above normal. Regional averages range from 24.01 inches, 2.46 inches above normal, for the Southwest Region to 17.45 inches, 0.12 inch below normal, for the Northwest Region (see Precipitation table, departure from normal, past six months column). Most areas of Ohio have averaged above normal precipitation during the past three months. This reversed the trend of the first three months of the calendar year during which time precipitation had been noticeably below normal.

Precipitation for the 1995 water year is near normal throughout the state ranging from slightly above normal in central, north-central, southwestern and southeastern Ohio to slightly below normal in the northwestern, northeastern and south-central areas of the state. The state average is 27.31 inches, 0.14 inch above normal. Regional averages range from 30.90 inches, 1.16 inches above normal, for the Southwest Region to 24.18 inches, 0.42 inch below normal, for the Northwest Region.

PRECIPITATION JUNE 1995



PRECIPITATION

Region	DEPARTURE FROM NORMAL (IN.)					Palmer Drought Severity Index*
	This Month	Past				
		3 Mos.	6 Mos.	12 Mos.	24 Mos.	
Northwest	+0.15	+1.49	-0.12	-2.88	-6.13	-0.9
North Central	-0.74	+2.05	+2.08	+0.34	-1.46	-0.5
Northeast	-0.43	+0.27	-0.06	+0.15	+2.99	-1.2
West Central	+0.35	+4.12	+1.40	-2.43	+0.74	-0.2
Central	+2.18	+4.52	+3.29	+1.19	+2.43	+0.7
Central Hills	-0.17	+1.96	+1.76	+0.32	+1.13	-0.8
Northeast Hills	+0.42	+1.10	-0.78	-0.99	+3.14	-1.2
Southwest	+0.31	+5.63	+2.46	-0.54	-0.86	-0.4
South Central	+0.04	+1.97	+0.25	-1.54	+0.36	-0.2
Southeast	+0.29	+2.24	+1.07	+1.04	+4.09	-0.6
State	+0.24	+2.53	+1.14	-0.53	+0.67	

*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

ACKNOWLEDGMENTS

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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.



DIVISION OF WATER
1939 FOUNTAIN SQUARE
COLUMBUS, OHIO 43224

George V. Vohnovich
Governor
Donald C. Anderson
Director
Michele Willis
Chief

An Equal Opportunity Employer-M/F/H

MEAN STREAM DISCHARGE

River and Location	Drainage Area (Sq. Mi.)	Mean Discharge (CFS)	% of Normal	This Month		
				% of Normal Past		
				3 Mos.	6 Mos.	12 Mos.
Grand River near Painesville	685	213	82	78	79	74
Great Miami River at Hamilton	3,630	4,115	177	128	86	77
Huron River at Milan	371	401	232	142	98	85
Killbuck Creek at Killbuck	464	469	178	90	85	78
Little Beaver Creek near East Liverpool	496	608	194	83	76	75
Maumee River at Waterville	6,330	4,237	186	100	81	66
Muskingum River at McConnellsville	7,422	8,487	143	87	90	86
Scioto River near Prospect	567	903	339	179	111	107
Scioto River at Higby	5,131	8,178	234	134	103	102
Stillwater River at Pleasant Hill	503	319	119	137	82	70

STREAMFLOW during June was above normal throughout most of Ohio with only the extreme northeast corner of the state having below normal flows. Flows from southwestern Ohio up through the central and north-central areas of the state were high enough to be considered excessive. Flows during June declined seasonally from the flows recorded during May in most drainage basins.

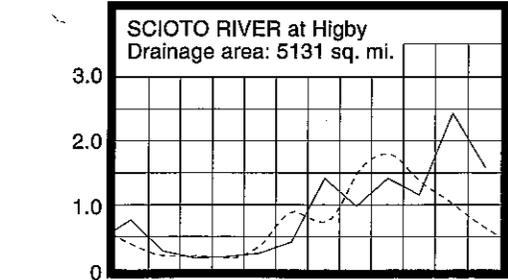
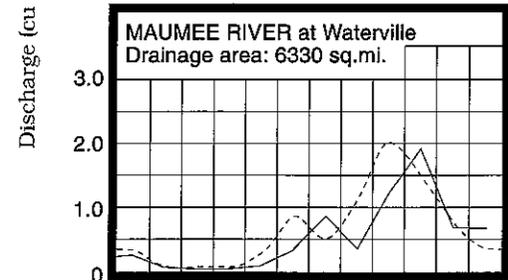
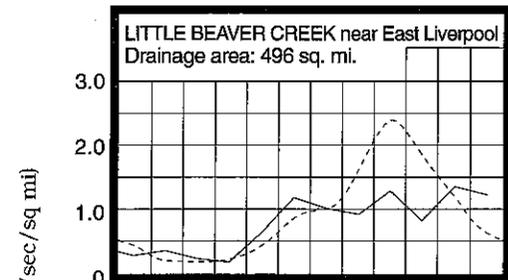
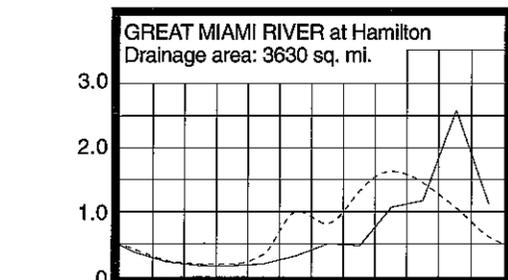
Flows at the beginning of June were noticeably above normal throughout the state. Greatest flows for the month occurred at various times following the heaviest local precipitation; most larger streams and rivers had their greatest flows at or near the month's end. Moderate small stream and urban flooding was reported following some local storms,

but only low level flooding occurred along the major rivers, especially in the central and southwestern area of the state. Lowest flows for the month occurred during June 20-24 in nearly all drainage basins. At the end of June, flows remained at above-normal levels in all but the extreme northeastern area of the state.

RESERVOIR STORAGE for water supply during June declined slightly in the Mahoning basin index reservoirs and was unchanged in the Scioto basin index reservoirs. Storage remained at above normal seasonal levels in both basins.

Reservoir storage at the end of June in the Mahoning basin index reservoirs was 100 percent of rated capacity for water supply compared with 105 percent for last month and 90 percent for June 1994. Month-end storage in the Scioto basin index reservoirs was 105 percent of rated capacity for water supply compared with the same for last month and 92 percent for June 1994. Surface water supplies remain adequate throughout Ohio.

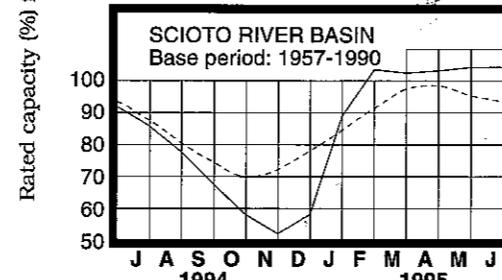
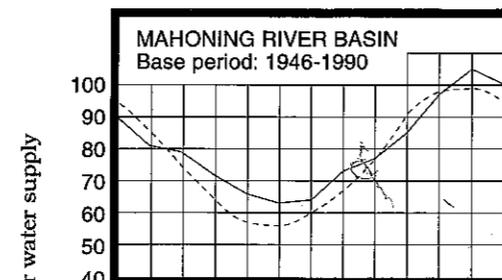
MEAN STREAM DISCHARGE



Base period for all streams: 1961-1990

Normal - - - - Current - - - -

RESERVOIR STORAGE FOR WATER SUPPLY



Base period: 1946-1990 (Mahoning), 1957-1990 (Scioto)

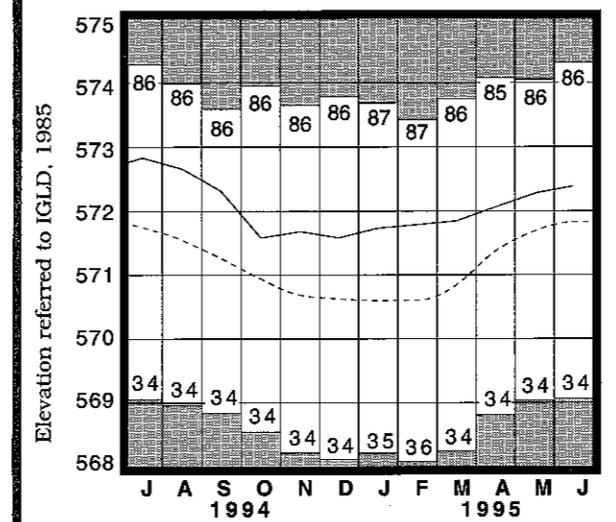
GROUND WATER LEVELS during June showed a net improvement from last month's levels in most of Ohio's aquifers. Ground water levels during the month responded differently across Ohio due to variations in precipitation and aquifer types. Generally, ground water levels were stable during the first half of the month and during the second half, declined in deeper aquifers while rising in many shallower aquifers.

The above normal precipitation during the past two months has been beneficial for ground water supplies. Ground water levels in the western two-thirds of the state are higher than those of last year and moderately above normal for this time of the year. However, in the eastern one-third, current levels are lower than the June 1994 levels and continue to be below normal. Little if any recharge can be expected during the next several months, but the abundant precipitation during May and June has greatly lessened the threat for potential ground water supply problems. A return to unusually dry conditions during the next several months could reverse this recent trend and therefore, water supply managers with ground water sources should continue to monitor their situations.

LAKE ERIE level rose seasonally during June. The mean level was 572.41 feet (IGLD-1985), 0.10 foot above last month's mean level and 0.59 foot above normal. This month's level is 0.26 foot lower than the June 1994 level and 3.21 feet above Low Water Datum.

The U. S. Army Corps of Engineers reports that precipitation in the Lake Erie basin during June averaged 3.2 inches, 0.2 inch below normal. The entire Great Lakes basin averaged 1.9 inches of precipitation in June, 1.3 inches below normal. For calendar year 1995 through June, the Lake Erie basin has averaged 17.5 inches of precipitation, 0.4 inch above normal and the entire Great Lakes basin has averaged 13.7 inches, 1.1 inches below normal.

LAKE ERIE LEVELS at Fairport



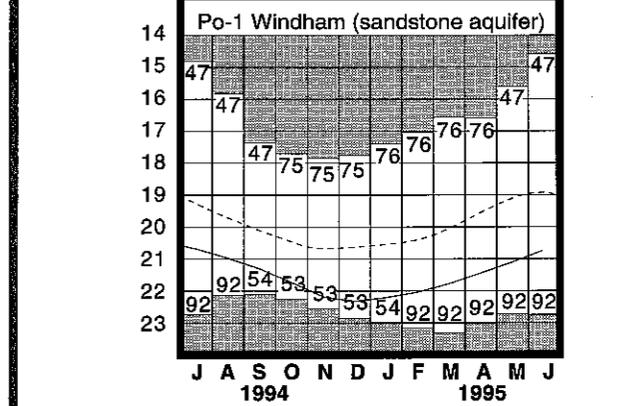
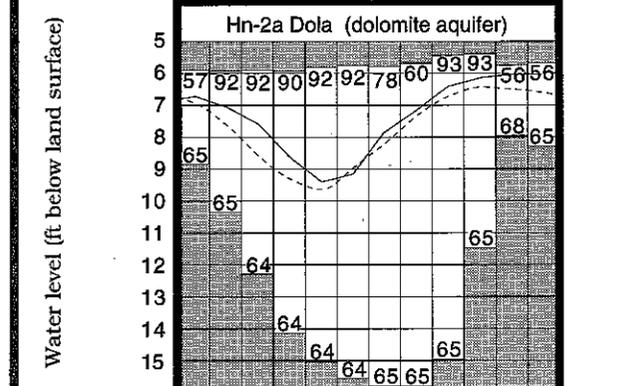
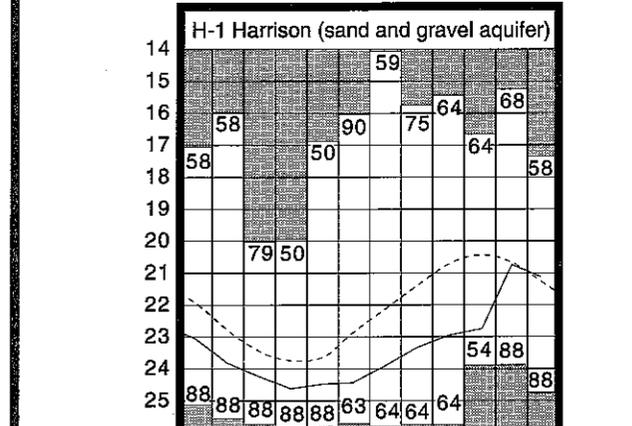
Base period: 1900-1991. Record high and low, year of occurrence

GROUND-WATER LEVELS

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

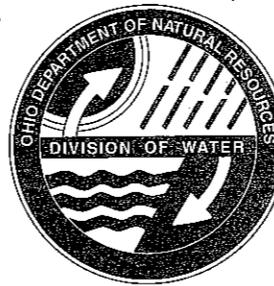
Index Well	Location	Aquifer	Mean This Month	Departure From Normal	Change in feet from:	
					Last Month	Year Ago
F-1	W. Rushville, Fairfield Co.	Sandstone	13.41	+0.50	+1.15	+3.34
Fa-1	Jasper Mill, Fayette Co.	Limestone	7.05	+0.32	+0.01	+0.89
Fr-10	Columbus, Franklin Co.	Gravel	42.16	+0.89	+0.27	+0.42
H-1	Harrison, Hamilton Co.	Gravel	21.12	+0.18	-0.36	+1.54
Hn-2a	Dola, Hardin Co.	Dolomite	6.09	+0.54	0.00	+0.83
Po-1	Windham, Portage Co.	Sandstone	20.78	-1.86	+0.33	-0.31
Tu-1	Strasburg, Tuscarawas Co.	Gravel	13.93	-2.04	+0.68	-0.26

GROUND-WATER LEVELS



Base periods: H-1, 1951-1990; Hn-2a, 1955-1990; Po-1, 1947-1990. Record high and low, year of occurrence

Normal - - - - Current - - - -



MONTHLY WATER INVENTORY REPORT FOR OHIO

July 1995

Compiled By David H. Cashell
Hydrologist
Water Inventory Unit

SUMMARY

Precipitation was below normal in northwestern, southern and eastern Ohio and above normal in the western, central and northeastern areas of the state. Streamflow was above normal in most drainage basins. Reservoir storage declined but remained at above normal seasonal levels. Ground water levels declined and were below normal in the southern and eastern areas of the state, but higher than those levels observed in July 1994 statewide. Lake Erie level declined and was 0.56 foot above the long-term July average.

NOTES AND COMMENTS

NEW PUBLICATIONS

The Division of Water announces the availability of the following new publication:

Ground Water Pollution Potential of Logan County
by Katherine M. Sprowls

Ground water pollution potential maps are designed to determine an area's relative vulnerability to ground water pollution. The maps can be used as a planning and management tool for administrators, commissioners, zoning boards and others to aid in making educated decisions about local development and siting of land use operations or activities that can affect ground water quality. The system optimizes the use of existing data to rank areas with respect to pollution potential to help direct investigations and resource expenditures and to prioritize protection, monitoring and clean-up efforts.

Mapping an area's potential for ground water pollution is a relatively new idea. These maps use the DRASTIC system as developed for the U.S. Environmental Protection Agency by the National Ground Water Association. DRASTIC values, as shown on the maps, indicate an area's relative vulnerability to contamination through the use of a numerical rating scheme and the mapping of hydrogeologic settings. Low DRASTIC values indicate relatively low potential and high DRASTIC values indicate a high potential for contamination. Areas of similar DRASTIC values are color-coded for ease of interpretation.

Each ground water pollution potential map with its accompanying report costs \$10.00. They can be purchased at or ordered from the address listed below.

ODNR Division of Water
Water Resources Section
1939 Fountain Square, Building E-1
Columbus, Ohio 43224-1336
Phone (614) 265-6740

Make checks payable to ODNR Division of Water. If publications are ordered through the mail, please be sure to include the correct postage and handling charges as shown below. Payments can also be made with Visa or MasterCard.

Postage and Handling Charges

Cost of Publications	Add
under \$10.01	\$2.00
\$10.01 - \$20.00	\$3.00
\$20.01 - \$50.00	\$5.00
\$50.01 - \$100.00	\$8.50
\$100.01 and over	\$10.00

PRECIPITATION during July was below normal in northwestern, eastern and southern Ohio and above normal in the central, western and northeastern areas of the state. The state average was 3.36 inches, 0.56 inch below normal. Regional averages ranged from 4.79 inches, 1.08 inches above normal, for the West Central Region to 1.65 inches, 1.79 inches below normal, for the Northwest Region. Urbana (Champaign County) reported the greatest amount of precipitation during July, 9.77 inches. Toledo Express Airport (Lucas County) reported the least amount, only 0.34 inch.

Precipitation during July fell in the typical summer fashion as scattered showers and thunderstorms. Several storms during the month were locally severe with heavy downpours. Some local urban and small stream flooding was reported. Generally, the first half of the month was much drier than the second half in most areas of the state. Noticeably above normal temperatures also occurred during this period. At the end of the month, the Ohio Agricultural Statistics Service reports that soil moisture was rated as being adequate in 60 percent of the state, short in 19 percent and surplus in 21 percent.

Precipitation during the first week of July averaged about 0.5 inch in most areas of the state, but amounts of up to 2 inches fell in extreme southwestern Ohio. Storms continued to be widely scattered during the second week of the month with some areas in northeastern Ohio recording more than 2 inches of rain. Many areas in western and southwestern Ohio recorded more than 1 inch of rain during this period while the remainder of the state received much less. Storms became more widespread during the third week of July with much of Ohio receiving from 1 to more than 2 inches of rain. The greatest amounts fell in the central and north-central areas of the state while northwestern and southern Ohio received noticeably less. The last ten days of the month were the wettest for many locations. Rain fell during several days at many areas, but northwestern Ohio continued to be rather dry. The greatest amounts, more than 2 inches, again fell in the western and central areas of the state.

Precipitation for the 1995 calendar year is above normal in most areas of Ohio but below normal in the Northwest, Northeast Hills, South Central and Southeast regions. The state average is 24.14 inches, 0.62 inch above normal. Regional averages range from 27.60 inches, 3.72 inches above normal, for the Central Region to 19.10 inches, 1.91 inches below normal, for the Northwest Region.

Precipitation for the 1995 water year is below normal in the southern, eastern and northwestern areas of the state and above normal in the central, north-central and western areas. The state average is 30.70 inches, 0.39 inch below normal. Regional averages range from 34.07 inches, 0.36 inch above normal, for the Southwest Region to 25.83 inches, 2.21 inches below normal, for the Northwest Region.

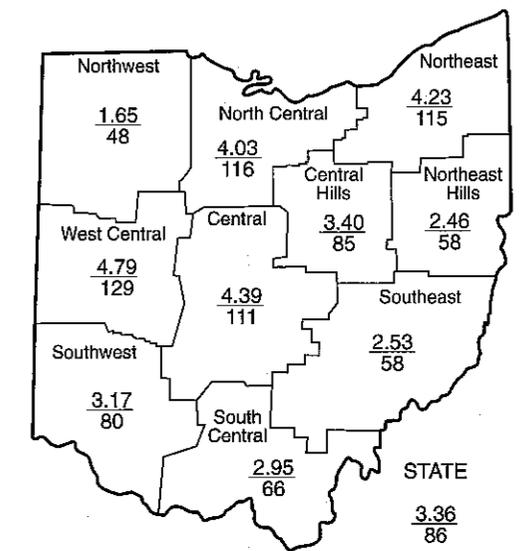
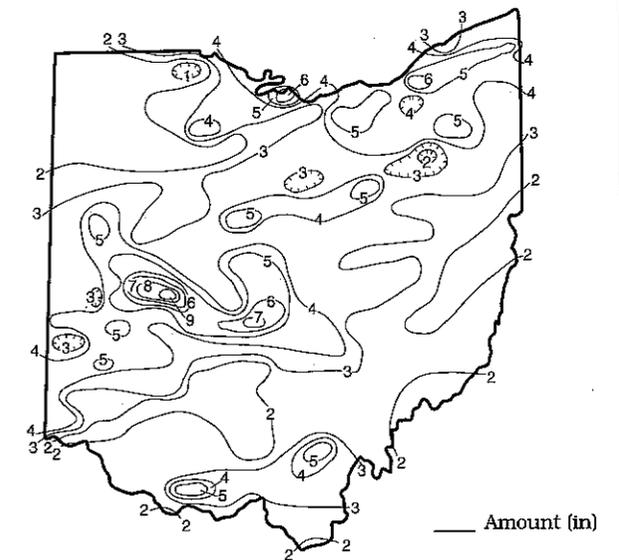
PRECIPITATION

Region	DEPARTURE FROM NORMAL (IN.)					Palmer Drought Severity Index*
	This Month	Past				
		3 Mos.	6 Mos.	12 Mos.	24 Mos.	
Northwest	-1.79	-1.44	-2.55	-4.01	-7.53	-2.7
North Central	+0.57	+1.10	+0.54	+1.90	+0.55	-1.2
Northeast	+0.55	+0.93	-1.04	+1.13	+4.70	-1.6
West Central	+1.08	+4.52	+2.83	-0.67	-1.48	-0.3
Central	+0.43	+4.91	+2.24	+1.85	+0.84	+0.4
Central Hills	-0.59	+1.09	-1.17	+0.28	+0.91	-1.4
Northeast Hills	-1.75	+0.22	-2.93	-1.88	+1.42	-1.6
Southwest	-0.80	+4.58	+1.88	-1.23	-0.79	-0.7
South Central	-1.51	+1.93	-2.68	-3.25	+0.06	-1.6
Southeast	-1.84	+1.55	-1.77	-1.61	+2.88	-1.8
State	-0.56	+1.94	-0.46	-0.74	+0.18	

*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 JULY 1995



Average (in)
Percent of normal

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.



DIVISION OF WATER
1939 FOUNTAIN SQUARE
COLUMBUS, OHIO 43224

George V. Voinovich
Governor

Donald C. Anderson
Director

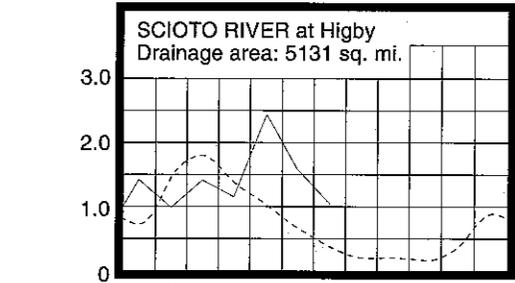
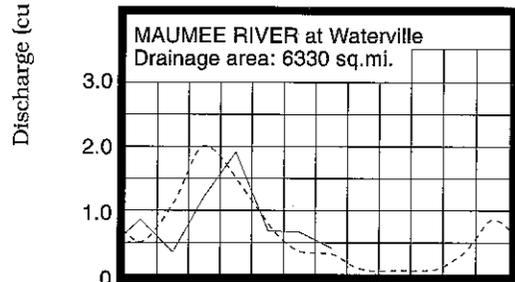
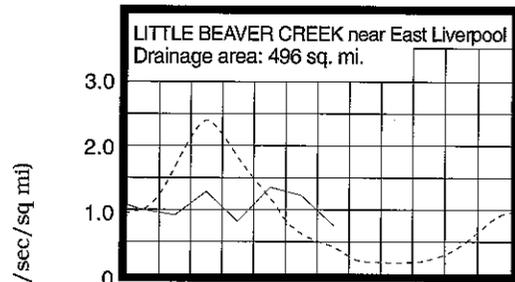
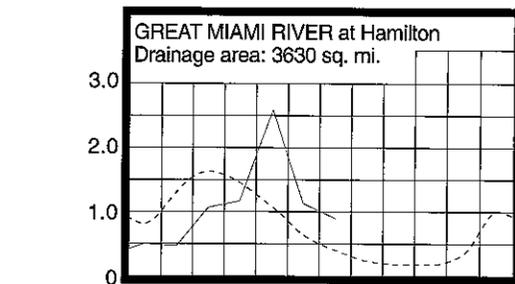
Michele Willis
Chief

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MEAN STREAM DISCHARGE

River and Location	Drainage Area (Sq. Mi.)	This Month Mean Discharge (CFS)	% of Normal	% of Normal Past		
				3 Mos.	6 Mos.	12 Mos.
				Grand River near Painesville	685	160
Great Miami River at Hamilton	3,630	3,219	220	202	98	82
Huron River at Milan	371	130	178	149	96	87
Killbuck Creek at Killbuck	464	191	105	118	70	79
Little Beaver Creek near East Liverpool	496	370	175	119	73	78
Maumee River at Waterville	6,330	2,592	115	105	78	68
Muskingum River at McConnelsville	7,422	4,242	98	122	81	87
Scioto River near Prospect	567	388	380	232	111	106
Scioto River at Higby	5,131	5,344	268	236	106	104
Stillwater River at Pleasant Hill	503	225	163	218	95	71

MEAN STREAM DISCHARGE



Base period for all streams: 1961-1990

Normal - - - - Current - - - -

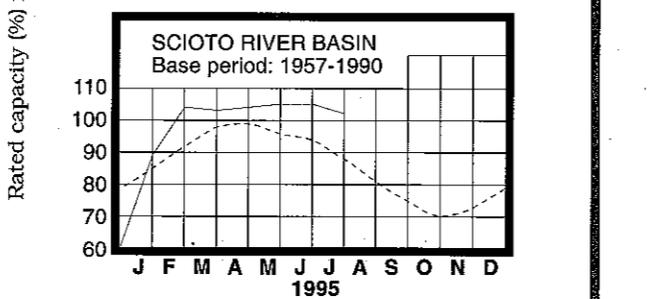
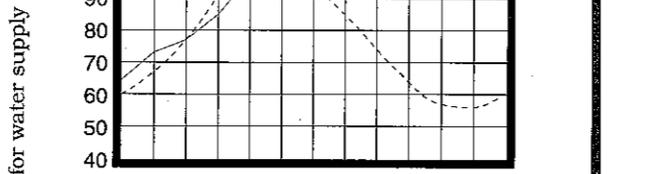
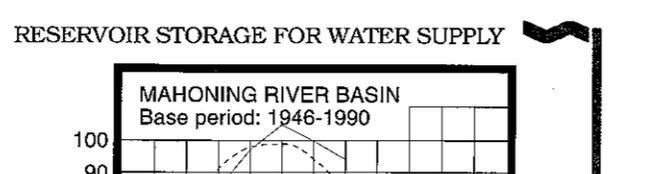
STREAMFLOW during July was above normal throughout most of the state with only extreme northeastern Ohio and some basins in southeastern Ohio having below normal flows. Flows in the central and south-central Ohio drainage basins were high enough to be considered excessive. Flows during July declined seasonally from the flows recorded during June in all areas of the state.

Flows at the beginning of the month were above normal throughout the state still responding to widespread precipitation during the last ten days of June. Many basins recorded their greatest flows for July on the first day of the month. Generally, flows declined steadily through the middle of the month. Many drainage basins recorded their lowest flows for July at this time before rising slightly in response to precipitation. Some basins, where precipitation was light just after mid-month, recorded their lowest flows about a week later. Some areas of north-central and northeastern Ohio recorded their lowest flows at the end of the month. Significant increases in streamflows in most areas of Ohio were noted during July 26-28 during which time some basins recorded their month's greatest flows. At the end of the month, flows were below normal in most areas of Ohio but still above normal in the central and southwestern areas of the state.

RESERVOIR STORAGE during July declined in both the Mahoning and Scioto river basin index reservoirs. Storage remained at above normal seasonal levels in both basins. Reservoir storage at the end of July in the Mahoning basin index reservoirs was 94 percent of rated capacity for water supply compared with 100 percent for last month and 81 percent for July 1994. Month-end storage in the Scioto basin index reservoirs was 102 percent of rated capacity for water supply compared with 105 percent for last month and 86 percent for July 1994. Water-supply storage in both on- and off-stream reservoirs remains at favorable levels for this time of the year throughout the state.

RESERVOIR STORAGE FOR WATER SUPPLY

MAHONING RIVER BASIN
Base period: 1946-1990



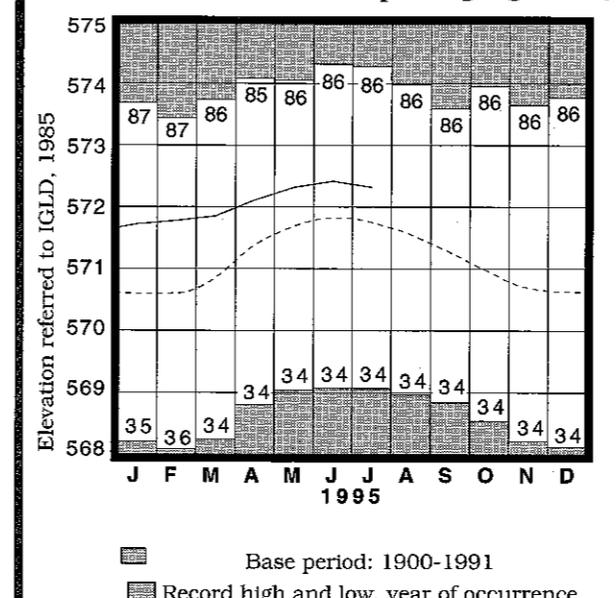
GROUND WATER LEVELS during July declined in most aquifers throughout Ohio. A few exceptions were noted in consolidated aquifers where levels were steady or rose slightly during the month. Many shallow unconsolidated aquifers showed significant rises just before the end of the month, responding to locally abundant precipitation.

Ground water levels throughout most of Ohio are now higher than they were a year ago. This is a result of the exceptionally dry conditions of May and June last year and the above normal precipitation during the past three months in most areas of the state. The above normal precipitation during the past few months has been beneficial for ground water supplies; however, ground water levels remain below normal in many eastern and southern areas of the state where the 1995 water year precipitation is still below normal. The above normal precipitation in many areas has helped to reduce the demand on both private and public water supplies. Although they are at below normal levels, ground water supplies are adequate. The potential for possible supply problems in the late summer and fall months has been greatly reduced.

LAKE ERIE level declined during July. The mean level was 572.31 feet (IGLD-1985), 0.10 foot below last month's mean level and 0.56 foot above normal. This month's level is 0.52 foot lower than the July 1994 level and 3.11 feet above Low Water Datum.

The U. S. Army Corps of Engineers reports that precipitation in the Lake Erie basin during July averaged 2.5 inches, 0.8 inch below normal. The entire Great Lakes basin averaged 3.2 inches of precipitation during July, 0.1 inch above normal. For calendar year 1995 through July, the Lake Erie basin has averaged 19.8 inches of precipitation, 0.6 inch below normal and the entire Great Lakes basin has averaged 16.7 inches, 1.2 inches below normal.

LAKE ERIE LEVELS at Fairport



Base period: 1900-1991
Record high and low, year of occurrence

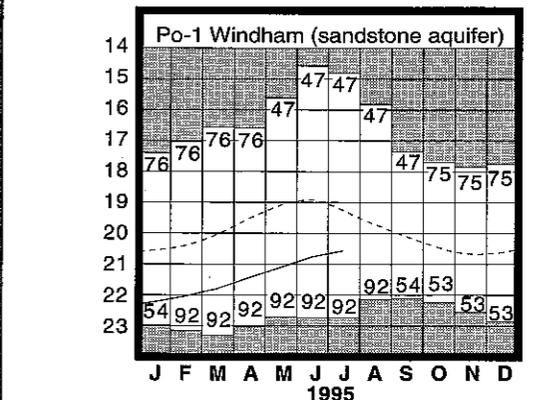
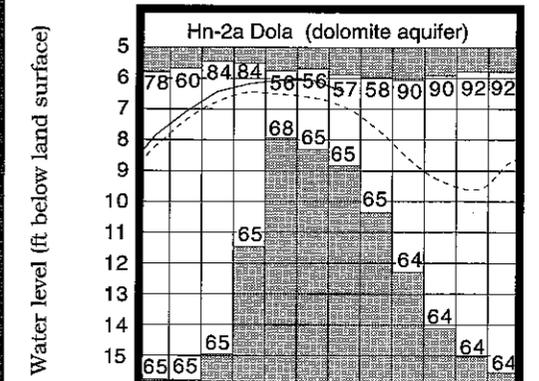
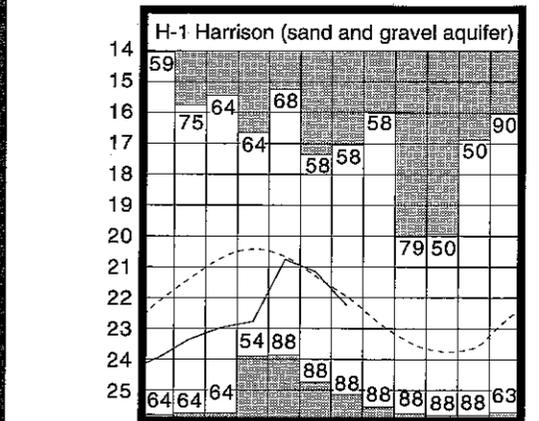
Normal - - - - Current - - - -

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	15.61	-0.49	-2.20	+2.23
Fa-1	Jasper Mill, Fayette Co.	Limestone	7.63	+0.17	-0.58	+0.54
Fr-10	Columbus, Franklin Co.	Gravel	42.47	+0.99	-0.31	+0.49
H-1	Harrison, Hamilton Co.	Gravel	22.23	-0.27	-1.11	+0.81
Hn-2a	Dola, Hardin Co.	Dolomite	6.44	+0.51	-0.35	+0.29
Po-1	Windham, Portage Co.	Sandstone	20.58	-1.29	+0.20	+0.11
Tu-1	Strasburg, Tuscarawas Co.	Gravel	14.44	-1.92	-0.51	-0.06

GROUND-WATER LEVELS



Base periods: H-1, 1951-1990. Hn-2a, 1955-1990.
Po-1, 1947-1990. Record high and low, year of occurrence

Normal - - - - Current - - - -



MONTHLY WATER INVENTORY REPORT FOR OHIO

August 1995

Compiled By David H. Cashell
Hydrologist
Water Inventory Unit

(continued from front page)

Precipitation for the 1995 calendar year is above normal throughout most of Ohio but below normal in the eastern and northwestern areas of the state. The state average is 28.49 inches, 1.49 inches above normal. Regional averages range from 33.28 inches, 5.85 inches above normal, for the Central Region to 22.33 inches, 1.61 inches below normal, for the Northwest Region.

Precipitation for the 1995 water year is above normal in the central, west-central and southwestern areas of Ohio but below normal in the eastern, northwestern and south-central areas. The state average is 35.06 inches, 0.49 inch above normal. Regional averages range from 39.41 inches, 4.69 inches above normal, for the Central Region to 29.06 inches, 1.91 inches below normal, for the Northwest Region.

SUMMARY

Precipitation was above normal in many areas of Ohio but below normal in much of the eastern and northern areas of the state. Streamflow was noticeably above normal in all but the extreme north-eastern Ohio drainage basins. Small stream and urban flooding during August 8-10 resulted in ten counties receiving federal disaster declarations. Reservoir storage declined seasonally and was above normal in many areas but slightly below normal in some smaller water-supply reservoirs. Ground water levels declined seasonally in most aquifers. Ground water levels are slightly above normal in most areas of the state, but continue to remain below normal in the eastern and northeastern Ohio aquifers. Lake Erie level declined and was 0.68 foot above the long-term August average.

NOTES AND COMMENTS

AUGUST STORMS RESULT IN DISASTER DECLARATION

At the request of Governor George V. Voinovich, President Clinton declared parts of Ohio major disaster areas as a result of heavy, localized rain storms in early August. The declaration includes Champaign, Erie, Licking, Logan, Lorain, Marion, Mercer, Miami, Scioto and Shelby counties. The storms caused an estimated \$15 million in flood damage losses to more than 3,000 homeowners and hundreds of businesses. Crop damage will not be evident until the harvest is completed in the impacted counties. The federal declaration enables flood victims to apply for assistance provided by the federal government. This assistance includes low interest loans, grants, and technical assistance to reduce exposure from future floods.

These storms were the result of moisture being funnelled into the state from a slow moving frontal system coupled with the remnants of Tropical Storm Dean and Hurricane Erin. The storms started on August 4-5 as soaking rains and showers mainly in the southern and north-central areas of the state. During the night of August 7-8, heavy storms dumped up to nearly 11 inches of rain on parts of Miami, Shelby, Logan and Champaign counties. The communities of St. Paris (Champaign County) and Piqua (Miami County) were severely impacted. These storms also produced heavy rain (more than 5 inches) in Marion County, where Prospect was hard hit, and in Mercer County, where Fort Recovery received the brunt of the storm. Storms developed again the next night (August 8-9) with Licking, Lorain and Erie counties receiving up to 5 inches of rain. The unincorporated area of Marne (Licking County) was impacted severely. Storms developed again during August 9-10 as the slow moving storm system finally began to leave the Ohio Valley. Locally severe storms with intense, heavy rain caused flash floods in portions of southeastern Ohio. Washington and Scioto counties were hardest hit. Flooded roads in Scioto County resulted in the deaths of three people when their car was unable to make it through deep flood waters.

PRECIPITATION during August was generally above normal in the central, west-central and extreme southern areas of the state and below normal in the eastern and northern areas. The state average was 4.36 inches, 0.88 inch above normal. Regional averages ranged from 5.89 inches, 2.59 inches above normal, for the West Central Region to 2.23 inches, 1.17 inches below normal, for the Northeast Region. Piqua (Miami County) reported the greatest amount of precipitation for the month, 13.84 inches. Unofficial reports of nearly 15 inches were received from the Miami, Shelby and Champaign County area. Warren (Trumbull County) reported the least amount of precipitation for August, only 0.94 inch.

Precipitation during August varied widely across Ohio with most of the precipitation falling during the first twenty days of the month. Temperatures were above normal throughout most of August as they were during much of July. The month started with a few widely scattered storms across the state. Moisture directed by a frontal system associated with Tropical Storm Dean began moving into Ohio on August 4, closely followed by the remnants of Hurricane Erin on August 5. Soaking rains covered much of the southern half and north-central areas of the state with totals greater than 4 inches reported throughout most of this area. The frontal system was slow moving and, therefore, moisture continued to be funnelled into the state. Locally severe storms developed during August 7-10 with areas in western and central Ohio hardest hit, but locally severe storms also occurred in other areas of the state. Nearly 11 inches of rain fell during August 7-8 in sections of Miami, Shelby, Logan and Champaign counties. Prospect (Marion County) also reported excessive precipitation (more than 6 inches) as did Fort Recovery (Mercer County). Severe small stream and urban flooding with significant damage was reported (see Notes and Comments on the last page of this report). Storms developed again during August 8-9 with up to 5 inches reported in sections of Erie, Lorain and Licking counties. Storms continued to develop on August 9-10 with a locally severe storm in Scioto County causing flooding that claimed three lives. Other areas also reported locally severe storms throughout August 7-10 with rain amounts of 2-4 inches common.

Scattered storms crossed Ohio during August 15 with more widespread precipitation falling during August 17-19. The remainder of the month was nearly dry with only a few light, widely scattered showers reported. Even with soils saturated at mid-month in many areas of the state, after ten or more days without rain coupled with high temperatures, soils were rather dry at the end of the month. The Ohio Agricultural Statistics Service reports that at the end of August, 41 percent of the state had adequate soil moisture and 59 percent had soils short of moisture.

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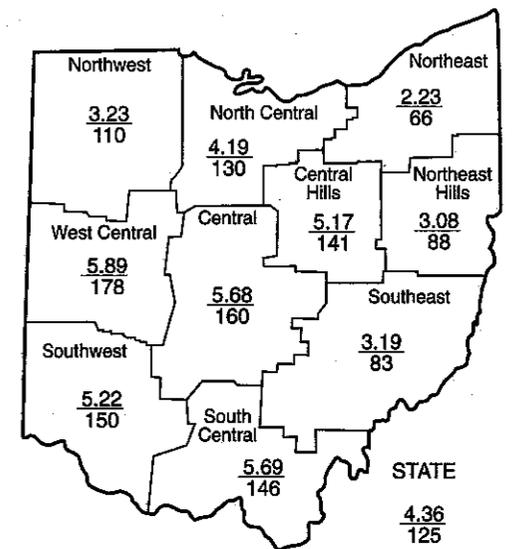
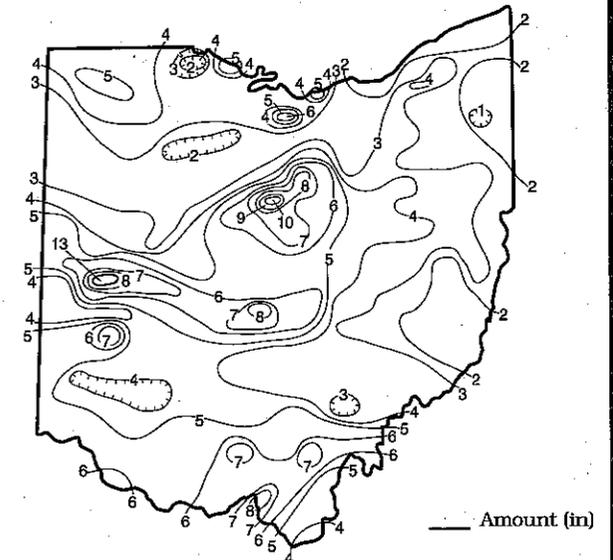
PRECIPITATION

Region	DEPARTURE FROM NORMAL (IN.)					Palmer Drought Severity Index*
	This Month	Past				
		3 Mos.	6 Mos.	12 Mos.	24 Mos.	
Northwest	+0.30	-1.34	-1.19	-3.83	-5.93	-3.4
North Central	+0.96	+0.79	+2.49	+1.68	+3.87	-0.9
Northeast	-1.17	-1.05	-1.72	-2.31	+5.32	-2.9
West Central	+2.59	+4.02	+6.56	+1.84	+2.37	-0.3
Central	+2.13	+4.74	+5.22	+3.51	+5.34	+0.5
Central Hills	+1.51	+0.75	+1.16	+0.20	+5.32	-1.0
Northeast Hills	-0.44	-1.59	-2.73	-3.88	+3.34	-2.8
Southwest	+1.75	+1.26	+4.86	+0.24	+1.83	0.0
South Central	+1.80	+0.33	+0.05	-1.26	+4.28	-3.2
Southeast	-0.65	-2.00	-1.94	-3.03	+4.16	-1.9
State	+0.88	+0.80	+1.28	-0.67	+3.02	

*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 AUGUST 1995



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.



DIVISION OF WATER
1939 FOUNTAIN SQUARE
COLUMBUS, OHIO 43224

George V. Voinovich
Governor

Donald C. Anderson
Director

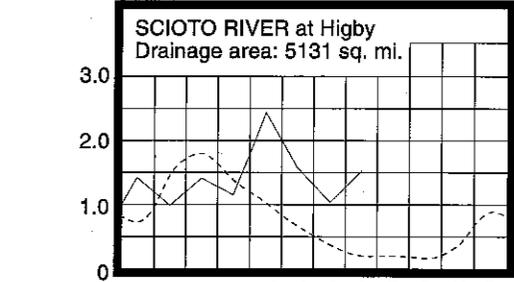
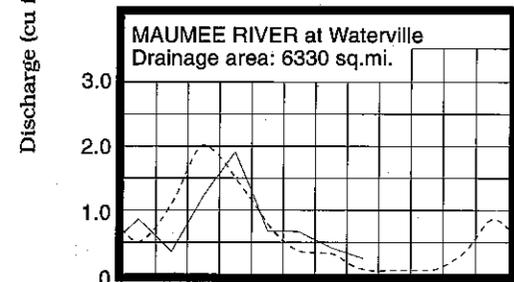
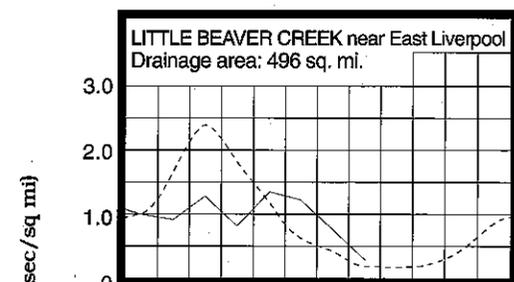
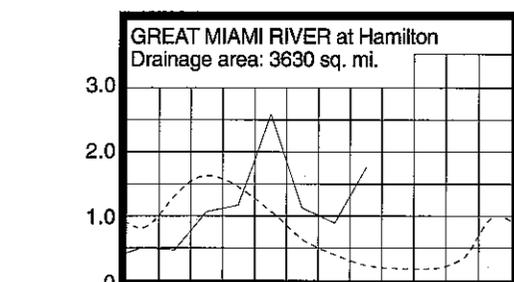
Michele Willis
Chief

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MEAN STREAM DISCHARGE

River and Location	Drainage Area (Sq. Mi.)	Mean Discharge (CFS)	% of Normal	% of Normal Past		
				This Month		
				3 Mos.	6 Mos.	12 Mos.
Grand River near Painesville	685	62	55	39	62	68
Great Miami River at Hamilton	3,630	6,415	692	263	128	96
Huron River at Milan	371	108	225	183	104	87
Killbuck Creek at Killbuck	464	273	213	139	86	82
Little Beaver Creek near East Liverpool	496	137	132	168	75	78
Maumee River at Waterville	6,330	1,589	238	152	94	69
Muskingum River at McConnelsville	7,422	6,057	230	143	88	91
Scioto River near Prospect	567	811	1,993	380	150	121
Scioto River at Higby	5,131	7,864	672	309	135	115
Stillwater River at Pleasant Hill	503	829	1,417	270	123	86

MEAN STREAM DISCHARGE



Base period for all streams: 1961-1990

Normal - - - - Current - - - -

STREAMFLOW during August was noticeably above normal throughout most of Ohio with only the extreme northeast corner of the state having below normal flows. Flows were high enough to be considered excessive in all but the north-central and northeastern Ohio drainage basins. Flows during August in the southern two-thirds of the state increased unseasonably from the flows recorded during July while decreasing elsewhere. Based on preliminary data, the monthly mean flow of 811 cfs for the Scioto River near Prospect gauging station is the highest for August for its period of record dating back to 1925 (continuous since 1939).

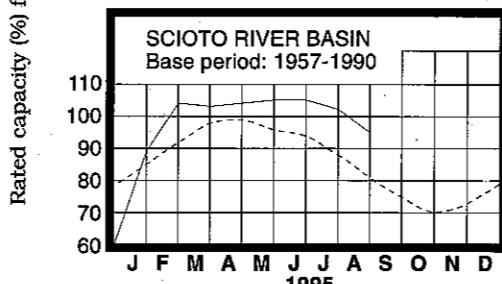
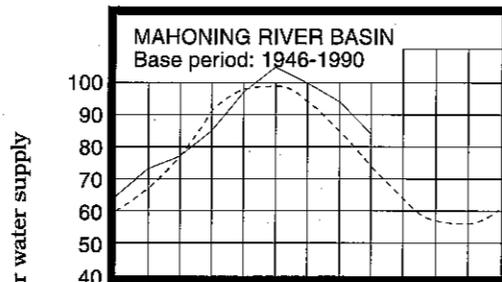
Flows at the beginning of the month were near normal in most of Ohio, but above normal in the central, west-central and southwestern areas of the state. Flows began to rise quickly after August 4 as a frontal system and moisture associated with Tropical Storm Dean and then the remnants of Hurricane Erin passed through the state. Most areas of the state recorded their greatest flows during August 6-9 following these storms. Significant small stream and urban flooding occurred in many areas, but several communities in central and west-central Ohio were impacted the greatest (see Notes and Comments on the last page of this report). Flows declined through the end of the month following these storms with slight increases noted following local precipitation, especially during August 18-19. Lowest flows for August were observed at the end of the month following ten or more days without precipitation in most areas of the state. Month-end flows were noticeably below normal in many areas, but still above normal in the central, west-central and southwestern Ohio drainage basins.

RESERVOIR STORAGE for water supply during August declined seasonally in both the Mahoning and Scioto river basins. Storage remained above normal in both basins.

Reservoir storage at the end of August in the Mahoning basin index reservoirs was 84 percent of rated capacity for water supply compared with 94 percent for last month and 79 percent for August 1994. Month-end storage in the Scioto basin index reservoirs was 95 percent of rated capacity for water supply compared with 102 percent for last month and 78 percent for August 1994.

Surface-water supplies remain at acceptable levels in most areas of the state, but with the high temperatures and lack of precipitation during the second half of August, demand was high and some small water-supply reservoirs have reported levels low enough to cause some concern.

RESERVOIR STORAGE FOR WATER SUPPLY



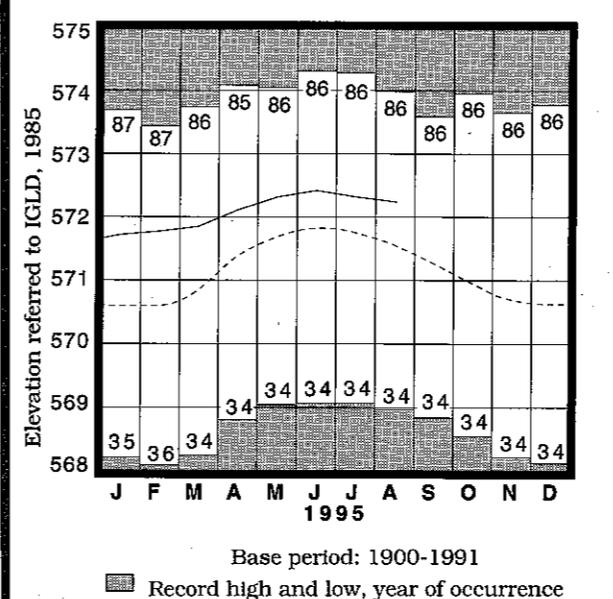
GROUND WATER LEVELS during August showed net declines in most areas of Ohio, but a few consolidated aquifers showed a little positive improvement due to this month's precipitation and/or delayed recharge from locally above normal precipitation during July. Net declines during August from those levels observed during July were about what is normally observed in most areas of the state. Generally, ground water levels in most shallow, unconsolidated aquifers rose sharply following the widespread precipitation during August 7-10 and then declined during the second half of the month. Levels in most deeper aquifers were either stable throughout the month or stable during the first half and then slowly declined during the second half.

As a result of the above normal precipitation during the past few months in many areas of Ohio, ground water levels have been able to maintain higher levels than those observed last year at this time. Ground water levels are slightly above normal in many areas of the state, but levels remain below normal in many aquifers in northeastern, eastern and southeastern Ohio where summer precipitation has not been as favorable. The next few months are typically the driest time of the year when ground water storage is at its lowest level; therefore, water supply managers with ground water sources, especially in the eastern areas of Ohio, should monitor their situations during the next few months until significant recharge is observed later this year or early next year.

LAKE ERIE level declined during August. The mean level was 572.24 feet (IGLD-1985), 0.07 foot below last month's mean level and 0.68 foot above normal. This month's level is 0.43 foot lower than the August 1994 level and 3.04 feet above Low Water Datum.

The U. S. Army Corps of Engineers reports that precipitation in the Lake Erie basin during August averaged 2.8 inches, 0.4 inch below normal. The entire Great Lakes basin averaged 4.0 inches of precipitation during August, 0.9 inch above normal. For calendar year 1995 through August, the Lake Erie basin has averaged 22.4 inches of precipitation, 1.2 inches below normal and the entire Great Lakes basin has averaged 20.6 inches, 0.4 inch below normal.

LAKE ERIE LEVELS at Fairport

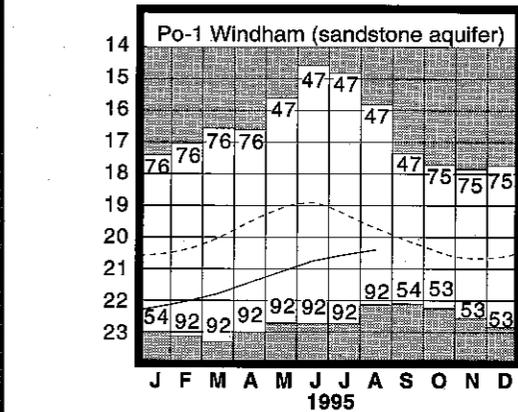
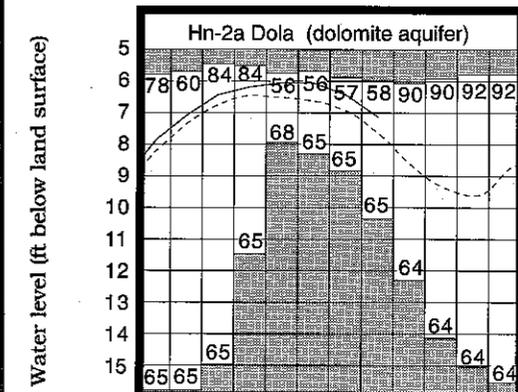
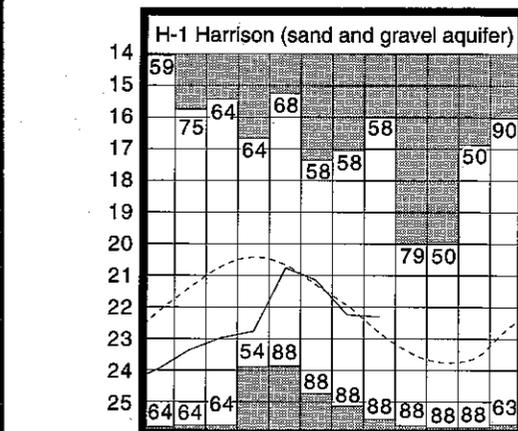


GROUND-WATER LEVELS

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	15.43	+0.36	+0.18	+4.14
Fa-1	Jasper Mill, Fayette Co.	Limestone	7.98	+0.30	-0.35	+0.77
Fr-10	Columbus, Franklin Co.	Gravel	42.85	+1.17	-0.38	+0.84
H-1	Harrison, Hamilton Co.	Gravel	22.30	+0.51	-0.07	+1.51
Hn-2a	Dola, Hardin Co.	Dolomite	7.14	+0.52	-0.70	-0.06
Po-1	Windham, Portage Co.	Sandstone	20.40	-0.68	+0.18	+0.57
Tu-1	Strasburg, Tuscarawas Co.	Gravel	14.79	-1.70	-0.35	+0.24

GROUND-WATER LEVELS



Base periods: H-1, 1951-1990. Hn-2a, 1955-1990. Po-1, 1947-1990. Record high and low, year of occurrence

Normal - - - - Current - - - -



MONTHLY WATER INVENTORY REPORT FOR OHIO

September 1995

Compiled By David H. Cashell
Hydrologist
Water Inventory Unit

PRECIPITATION during September was noticeably below normal throughout the state. The state average was 1.39 inches, 1.61 inches below normal, which ranks as the seventh driest September during the last 113 years of record. Regional averages ranged from 2.11 inches, 1.07 inches below normal, for the South Central Region to 0.98 inch, 1.87 inches below normal, for the Northwest Region. Gallipolis Locks and Dam (Gallia County) reported the greatest amount of precipitation for the month, 3.83 inches. Congress (Wayne County) and Ottawa (Putnam County) both reported 0.33 inch of rain in September, the least amount of all reporting stations.

Most of the precipitation fell during the middle of the month as the first and last seven days of September were noticeably dry statewide. Light showers fell during September 7-9 in many areas of the state with the greatest amounts observed in extreme western Ohio. Showers were widespread in the southern two-thirds of Ohio during September 11-15 with amounts of more than 0.5 inch reported at many locations. The month's heaviest storms occurred during September 14-15 mainly in extreme southeastern Ohio along the Ohio River with 1 to 2 inches reported at some locations. The third full week of the month was the wettest as far as the number of days with precipitation in many areas of Ohio with scattered, light showers falling throughout September 17-21. Amounts during this period averaged around 0.5 inch statewide.

Precipitation for the 1995 calendar year is above normal in the western, southwestern, central and north-central areas of the state, but below normal in the northwestern, eastern and southeastern areas. The state average is 29.90 inches, 0.10 inch below normal. Regional averages range from 33.82 inches, 1.74 inches above normal, for the Southwest Region to 23.34 inches, 3.45 inches below normal, for the Northwest Region.

Precipitation for the 1995 water year was above normal in the western, southwestern, central and north-central areas of the state, but below normal in the northwestern and eastern areas. The state average was 36.47 inches, 1.10 inches below normal. Regional averages ranged from 40.71 inches, 0.44 inch above normal, for the Southwest Region to 30.07 inches, 3.75 inches below normal, for the Northwest Region (see Precipitation table, departure from normal, past 12 months column). Piqua (Miami County) reported the greatest amount of precipitation for the water year, 50.77 inches, of which 13.84 inches fell during August. Hicksville (Defiance County) reported the least amount of precipitation for the water year, 27.45 inches; Toledo Express Airport (Lucas County) reported 27.47 inches, the second lowest amount of all reporting stations. An isohyetal map and regional averages with percentages of normal precipitation for the 1995 water year appear on the last page of this report.

(continued on back)

PRECIPITATION

Region	DEPARTURE FROM NORMAL (IN.)					Palmer Drought Severity Index*
	This Month	Past				
		3 Mos.	6 Mos.	12 Mos.	24 Mos.	
Northwest	-1.87	-3.17	-1.84	-3.75	-9.54	-3.1
North Central	-1.72	-0.26	+2.08	+1.18	+1.21	-1.3
Northeast	-1.85	-2.47	-1.85	-3.27	+1.70	-2.9
West Central	-1.62	+1.86	+5.94	+1.78	-0.36	-0.6
Central	-1.74	+0.54	+4.67	+2.30	+2.37	-0.7
Central Hills	-2.04	-1.05	+1.27	-0.24	+2.91	-1.5
Northeast Hills	-1.48	-3.67	-2.29	-4.59	+0.11	-2.4
Southwest	-1.57	-0.62	+4.97	+0.44	+0.20	-1.0
South Central	-1.07	-0.99	+1.06	-1.84	+2.88	-2.1
Southeast	-1.13	-3.37	-0.99	-3.28	+2.35	-1.8
State	-1.61	-1.31	+1.31	-1.10	+0.43	

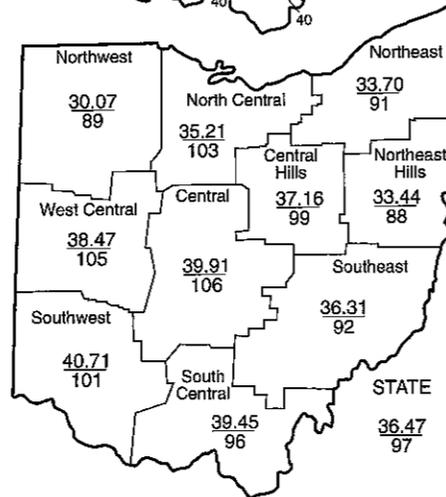
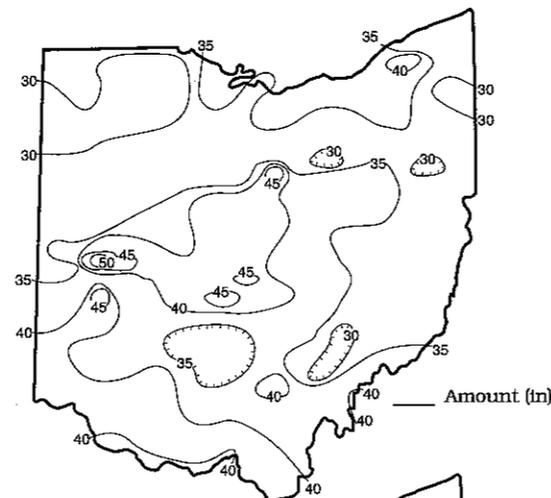
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0.5 To 0.9 = Incipient Moist Spell
0.4 To -0.4 = Near Normal

-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

(continued from front page)

The 1995 water year started off with noticeably below normal precipitation as October 1994 was the tenth driest on record. Precipitation was near or above normal during November, December and January, but returned to unusually below normal levels during February and March. Precipitation during April was above normal in the central and western areas of the state but continued to be below normal in the eastern and south-central areas. Precipitation was noticeably above normal in May, ranking as the eighth wettest on record, and also in June, which caused some delays in the planting of agricultural crops. Many areas of the state had below normal precipitation during July, but the central, west-central and northeastern areas had above normal precipitation. August precipitation was above normal in the eastern two-thirds of Ohio but continued to be below normal in the eastern one-third. The water year ended as it began with noticeably below normal precipitation throughout the state with September being the seventh driest on record. Even with below normal precipitation in many areas during the 1995 water year, water supplies were adequate throughout the year.

TOTAL PRECIPITATION 1995 WATER YEAR



SUMMARY

Precipitation was noticeably below normal statewide with the month's average of 1.39 inches ranking as the seventh driest September on record. Streamflow was below normal in all but the central and western areas of the state. Reservoir storage decreased seasonally but remained at above normal levels. Ground water levels declined and are below normal in the eastern and northeastern Ohio aquifers. Lake Erie level declined 0.52 foot and was 0.46 foot above the long-term September average.

Precipitation for the 1995 water year was below normal in northwestern and eastern Ohio and above normal elsewhere. Annual streamflow was below normal in all but the central Ohio drainage basins where it was above normal. Reservoir storage was above normal throughout most of the water year. Ground water levels were generally above normal in the western half of the state and below normal in the eastern half throughout the water year. Lake Erie level remained above normal throughout the water year as it has been for quite some time.

ACKNOWLEDGMENTS

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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.
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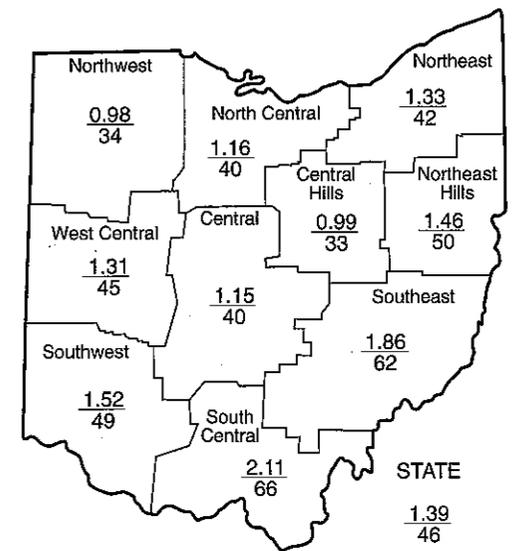
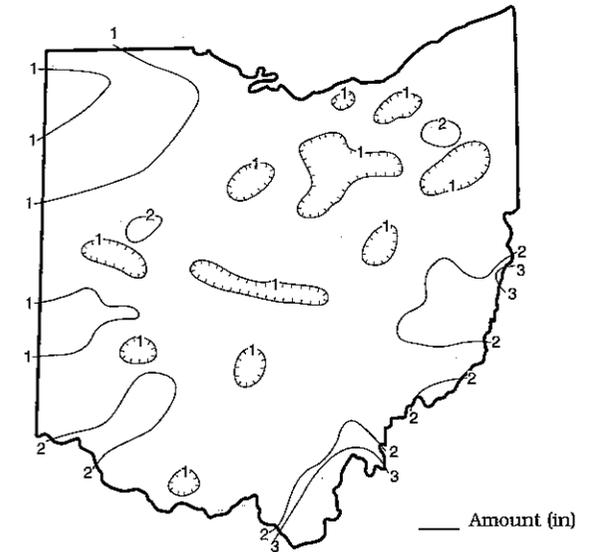


DIVISION OF WATER
1939 FOUNTAIN SQUARE
COLUMBUS, OHIO 43224

George V. Volnovich
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Director
Michele Willis
Chief

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PRECIPITATION SEPTEMBER 1995

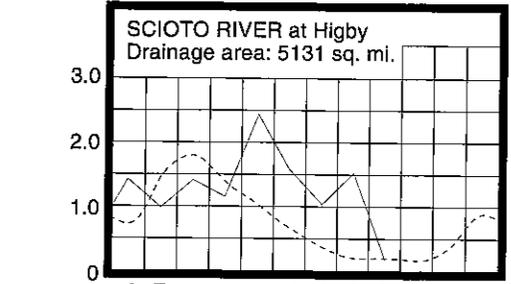
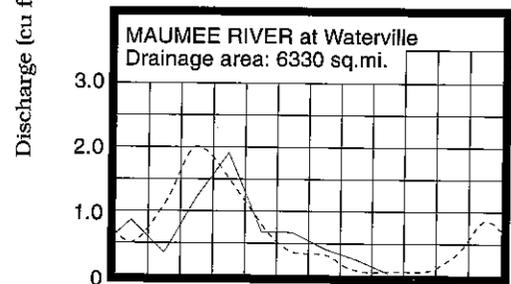
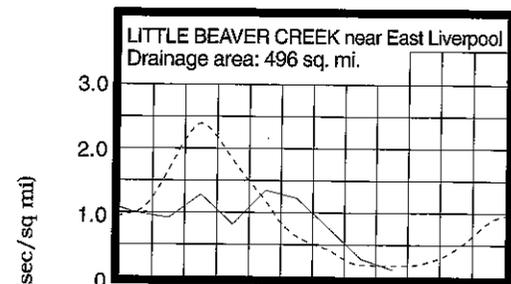
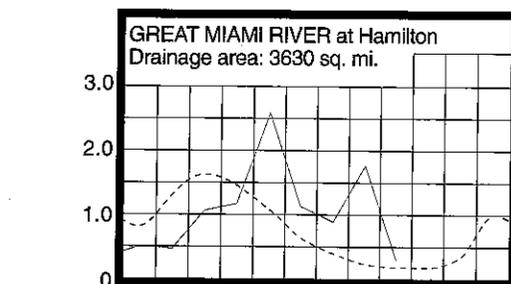


Average (in)
Percent of normal

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	9	4	24	55	67
Great Miami River at Hamilton	3,630	1,052	137	315	154	96
Huron River at Milan	371	20	61	126	129	87
Killbuck Creek at Killbuck	464	77	76	127	92	81
Little Beaver Creek near East Liverpool	496	52	57	118	83	77
Maumee River at Waterville	6,330	240	38	116	91	69
Muskingum River at McConnellsville	7,422	1,371	70	117	92	90
Scioto River near Prospect	567	34	110	561	221	121
Scioto River at Higby	5,131	1,054	86	273	165	115
Stillwater River at Pleasant Hill	503	52	105	376	159	87

MEAN STREAM DISCHARGE



Base period for all streams: 1961-1990

Normal - - - - Current - - - -

STREAMFLOW during September was below normal in most areas of Ohio, but some drainage basins in the western and central areas of the state had above normal flows where unusually heavy rain fell in August. Flows in many northern and eastern Ohio drainage basins were low enough to be considered deficient. Flows during September were noticeably less than the excessive flows observed during August. Based on preliminary data, the monthly mean flow of 9 cfs for the Grand River near Painesville gauging station is the lowest for its period of record (21 years).

Flows at the beginning of September were below normal in the northern and eastern areas of the state and above normal in the central, western and southwestern areas. Generally, flows declined slowly during the first twelve days of the month and then increased following some of the month's most widespread precipitation during September 11-15. The greatest flows for September were observed during this period in most drainage basins. Flows slowly declined in most basins through the end of the month at which time September's lowest flows were observed. An exception was in some northeastern drainage basins where slightly lower flows were recorded early in the month. Flows at the end of the month were noticeably below normal throughout the state.

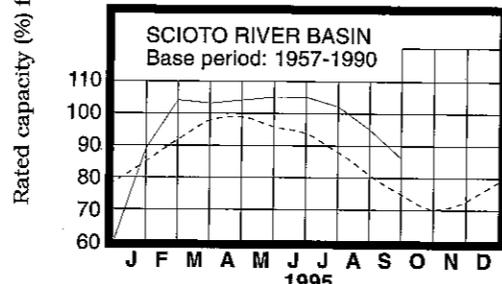
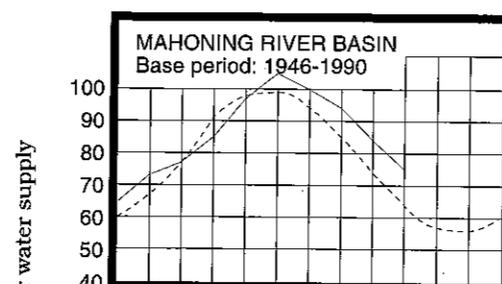
Streamflow for the 1995 water year was below normal in most areas of the state but above normal in central Ohio (see Mean Stream Discharge table, past 12 months column). Flows in the northern Ohio drainage basins were low enough to be considered deficient. Generally, flows were below normal during the first half of the water year and above normal during the second half. Minor flooding was reported during January and April. Several locally severe storms caused small stream and urban flooding as well as flash flooding during the late spring and summer months. Several counties were declared disaster areas after flooding during the early part of August.

RESERVOIR STORAGE for water supply during September decreased in both the Mahoning and Scioto river basins. Storage remained above normal in both basins.

Reservoir storage at the end of September in the Mahoning River basin index reservoirs was 75 percent of rated capacity for water supply compared with 84 percent for last month and 72 percent for September 1994. Month-end storage in the Scioto River basin index reservoirs was 86 percent of rated capacity for water supply compared with 95 percent for last month and 68 percent for September 1994.

Surface-water supplies at the beginning of the 1995 water year were above normal in the Mahoning basin reservoirs but noticeably below normal in the Scioto basin reservoirs. Storage in the Scioto basin reservoirs recovered to above normal levels during the winter months. Above normal precipitation during the late spring and summer months resulted in ample streamflow and reduced demand, both of which were beneficial for surface-water supplies. Storage in both basins remained at above normal levels through the end of the 1995 water year.

RESERVOIR STORAGE FOR WATER SUPPLY



GROUND WATER LEVELS during September declined throughout Ohio. Net declines during September from those levels recorded during August were greater than usually observed in most aquifers. Ground water levels declined steadily throughout the month in response to the below normal precipitation during the second half of August and throughout September.

Summer precipitation has been greater during 1995 than during 1994 in many areas of Ohio and as a result, ground water levels are higher than those observed last year in most areas of the state. The only noticeable exception is in northwestern Ohio where the summer 1995 precipitation has been less than last year's and current ground water levels are lower. Ground water levels are slightly above normal in many areas of the state, but continue to remain at below normal levels in many aquifers in eastern, northeastern and southeastern Ohio where precipitation was noticeably below normal much of last year and summer 1995 precipitation has not been as favorable.

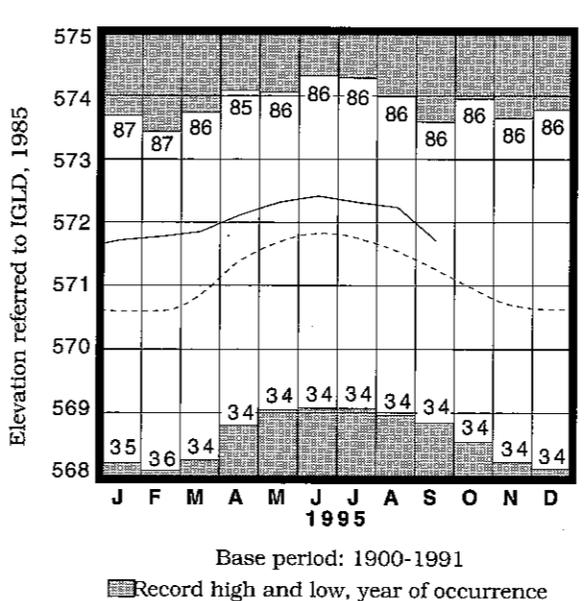
Ground water levels were noticeably below normal at the beginning of the 1995 water year. Below normal precipitation throughout most of the fall 1994, late winter 1995 and early spring 1995 months resulted in very little improvement in ground water storage. Conditions began to improve during the late spring and early summer months in most areas of the state as precipitation was near or above normal. Summer precipitation was abundant in many areas of Ohio which slowed the natural seasonal decline of ground water levels; however, in much of the eastern, northeastern and southeastern areas of the state, summer precipitation was not as favorable and ground water levels returned to below normal levels at the end of the water year.

LAKE ERIE level declined noticeably during September. The mean level was 571.72 feet (IGLD-1985), 0.52 foot below last month's mean level and 0.46 foot above normal. This month's level is 0.59 foot below the September 1994 level and 2.52 feet above Low Water Datum.

The U. S. Army Corps of Engineers reports that precipitation in the Lake Erie basin during September averaged 1.1 inches, 2.0 inches below normal. The entire Great Lakes basin averaged 2.7 inches of precipitation during July, 0.7 inch below normal. For calendar year 1995 through September, the Lake Erie basin has averaged 23.4 inches of precipitation, 3.3 inches below normal and the entire Great Lakes basin has averaged 23.1 inches, 1.3 inches below normal.

Lake Erie remained above the long-term average level throughout the 1995 water year. The U. S. Army Corps of Engineers predicts that, based on the present condition of the lake basin and anticipated future weather conditions, the level of Lake Erie should remain above the long-term average for the next several months. Variations in weather conditions during the next six months could alter the projected level by as much as one foot either way.

LAKE ERIE LEVELS at Fairport



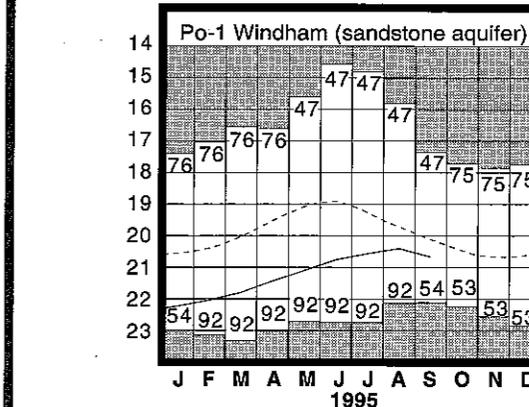
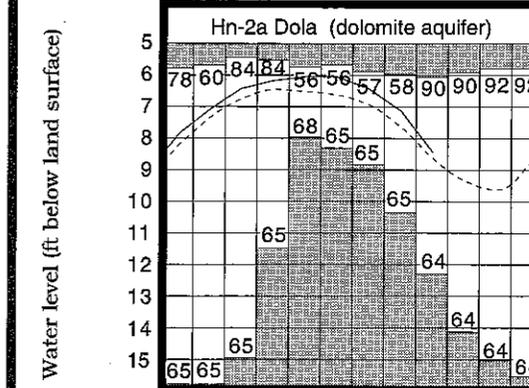
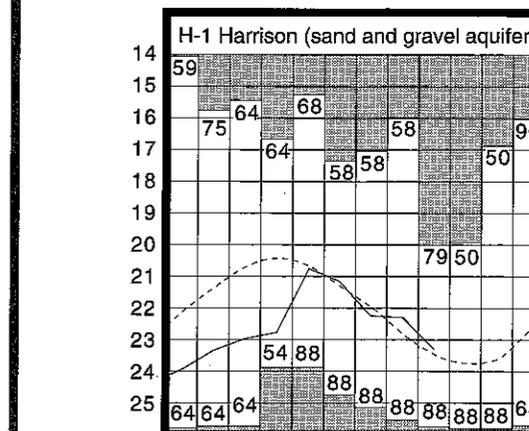
Normal - - - - Current - - - -

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	16.68	-0.26	-1.25	+3.27
Fa-1	Jasper Mill, Fayette Co.	Limestone	8.47	+0.20	-0.49	+0.68
Fr-10	Columbus, Franklin Co.	Gravel	43.53	+0.97	-0.68	+1.13
H-1	Harrison, Hamilton Co.	Gravel	23.29	+0.18	-0.99	+0.94
Hn-2a	Dola, Hardin Co.	Dolomite	8.43	+0.18	-1.29	-0.83
Po-1	Wintham, Portage Co.	Sandstone	20.67	-0.55	-0.27	+0.63
Tu-1	Strasburg, Tuscarawas Co.	Gravel	15.53	-2.02	-0.74	+0.01

GROUND-WATER LEVELS



Base periods: H-1, 1951-1990. Hn-2a, 1955-1990. Po-1, 1947-1990
Record high and low, year of occurrence

Normal - - - - Current - - - -



MONTHLY WATER INVENTORY REPORT FOR OHIO

October 1995

Compiled By David H. Cashell
Hydrologist
Water Inventory Unit

SUMMARY

Precipitation was above normal throughout the state. Streamflow was above normal in all but the extreme northeastern Ohio drainage basins. Reservoir storage declined but remained at above normal seasonal levels. Ground water levels declined in most aquifers, but rose in some aquifers in the southwestern quadrant of the state. Lake Erie level declined 0.23 foot and was 0.53 foot above the long-term October average.

NOTES AND COMMENTS

In September, the Division of Water staff met to develop mission and vision statements and a list of guiding principles and values. This is part of the Division's and Department's efforts to implement Quality Services through Partnerships (Ohio's total quality initiative) and to develop a common purpose and direction among all the Division employees. The Division of Water wants to share them with you. If you have any questions or comments, please call (614) 265-6717.

Division of Water

Mission

A unified team serving the citizens of Ohio by providing stewardship of one of our most valuable resources - WATER - to ensure its heritage and viability for all generations.

Vision

A team of professionals leading in water resource management utilizing innovative technology and partnerships to achieve the highest quality customer service.

Guiding Principles and Values

We value our role as stewards of Ohio's water resources and recognize the diversity and needs of our customers.

- To provide timely, quality service and accurate information.
- To practice high professional and ethical standards.
- To promote and implement teamwork and partnerships.
- To meet or exceed customer expectations for service and information.
- To practice good water management and protection.
- To encourage professional development through training and education.
- To use best available and innovative technology.
- To promote public education and awareness of water management.
- To provide positive work atmosphere and promote pride in job.
- To continually evaluate/improve division programs, policies, and statutory mandates per Ohio Revised Code.
- To be recognized for outstanding achievements by external peers and internal customers (i.e. striving for excellence).

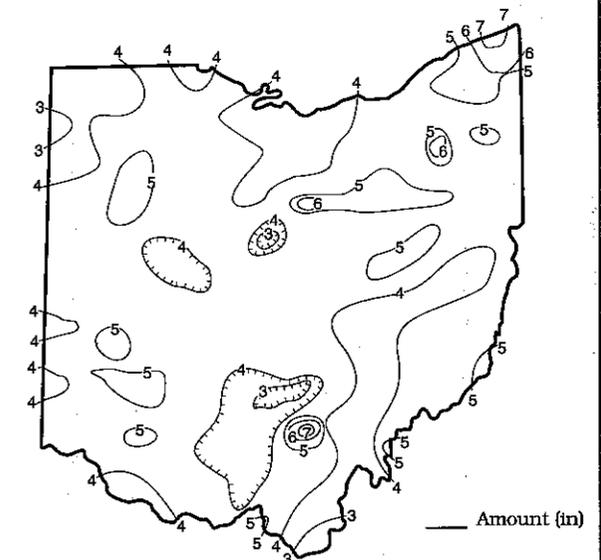
PRECIPITATION during October was above normal throughout the state, and in some areas, noticeably above normal. October is traditionally one of the driest months of the year. The state average was 4.41 inches, 2.07 inches above normal, which ranks as the eleventh wettest October during the past 113 years of record. Regional averages ranged from 5.20 inches, 2.94 inches above normal, for the Central Hills Region to 3.78 inches, 1.54 inches above normal, for the South Central Region. McArthur (Vinton County) reported the greatest amount of precipitation for the month, 7.06 inches; Ashtabula (Ashtabula County) reported 7.00 inches. Laurelville (Hocking County) reported the least amount of precipitation during October, 2.78 inches.

Precipitation during October fell as rain. In many areas of the state most of the precipitation for October fell during the first week of the month. Storms began during October 3-4 and were closely followed by the remnants of Hurricane Opal passing through the state on October 5. This series of storms produced 1-3 inches of rain in most areas of the state, but more than 4 inches were reported at a few locations. The next ten days of the month were autumn-like with little precipitation. Farmers were busy harvesting crops. Storms returned to the state during October 14-15 with some areas in eastern Ohio reporting more than 1 inch of precipitation. There were several days with precipitation during the last ten days of the month, but daily totals were generally light. During this period, storms were heaviest on October 20, especially in northern and northeastern Ohio where up to 1 inch of rain was reported. Precipitation totals for the last ten days of the month ranged from 0.5 to 1 inch at most of the remaining locations.

Precipitation for the 1995 calendar year is above normal throughout most of the state, but below normal in the Northwest, Northeast Hills and Southeast regions. The state average is 34.29 inches, 1.95 inches above normal. Regional averages range from 38.31 inches, 3.84 inches above normal, for the Southwest Region to 27.42 inches, 1.66 inches below normal, for the Northwest Region.

The 1996 water year is off to a good start as far as precipitation is concerned with October 1995 being the eleventh wettest October on record. The Ohio Agricultural Statistics Service reports that near the end of October soil moisture was considered as being short in 8 percent of the state, adequate in 79 percent of the state and surplus in 13 percent of the state. Conditions are favorable for water supply replenishment during the upcoming recharge season; however, near normal precipitation and other climatic conditions will be necessary to initiate and continue the improvement through the spring 1996.

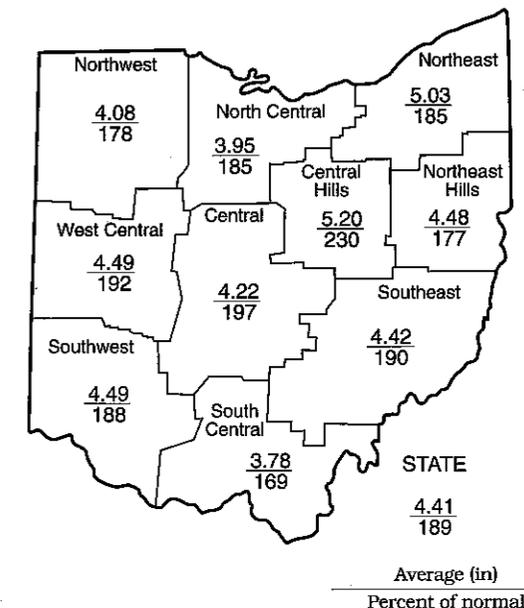
PRECIPITATION OCTOBER 1995



PRECIPITATION

Region	DEPARTURE FROM NORMAL (IN.)					Palmer Drought Severity Index*
	This Month	3 Mos.	6 Mos.	12 Mos.	24 Mos.	
Northwest	+1.79	+0.27	-1.19	-0.56	-7.22	-0.2
North Central	+1.81	+0.98	+2.32	+4.45	+2.64	+0.2
Northeast	+2.31	-0.71	+0.57	+0.29	+3.49	+0.2
West Central	+2.15	+2.93	+7.41	+5.57	+1.65	+2.4
Central	+2.08	+2.43	+6.73	+5.76	+3.65	+1.1
Central Hills	+2.94	+2.41	+3.82	+4.21	+5.44	+0.9
Northeast Hills	+1.95	+0.03	+0.28	-0.89	+1.75	+0.3
Southwest	+2.10	+2.28	+6.86	+3.96	+1.29	+0.8
South Central	+1.54	+2.06	+3.99	+0.98	+3.50	+0.8
Southeast	+2.09	+0.56	+2.10	+0.28	+3.53	+0.7
State	+2.07	+1.32	+3.29	+2.43	+2.01	

*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



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.



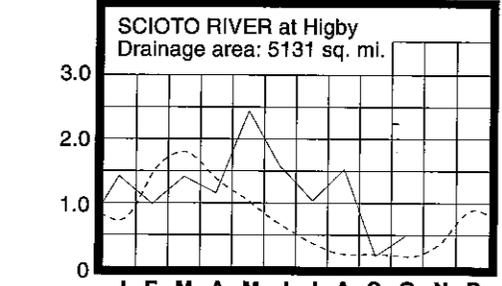
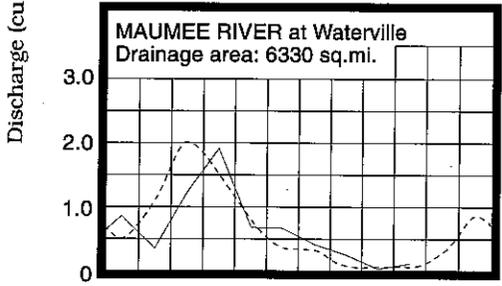
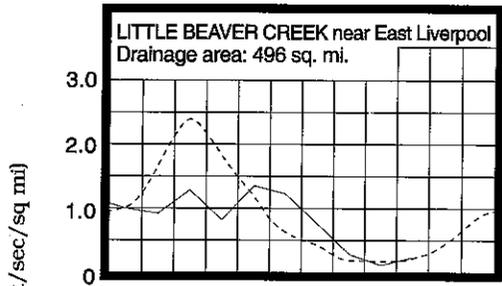
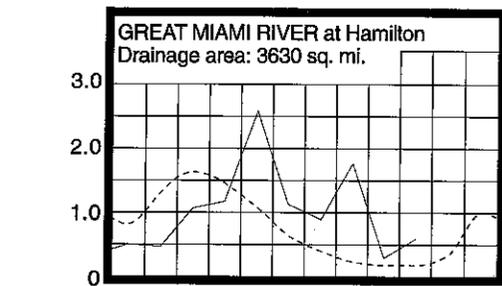
DIVISION OF WATER
1939 FOUNTAIN SQUARE
COLUMBUS, OHIO 43224

George V. Vohnovich
Governor
Donald C. Anderson
Director
Michale Willis
Chief
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MEAN STREAM DISCHARGE

River and Location	Drainage Area (Sq. Mi.)	Mean Discharge (CFS)	This Month % of Normal	% of Normal Past		
				3 Mos.	6 Mos.	12 Mos.
				Grand River near Painesville	685	137
Great Miami River at Hamilton	3,630	2,093	276	328	211	101
Huron River at Milan	371	69	205	125	142	89
Killbuck Creek at Killbuck	464	179	180	153	126	84
Little Beaver Creek near East Liverpool	496	120	100	89	114	77
Maumee River at Waterville	6,330	834	137	101	87	70
Muskingum River at McConnesville	7,422	2,712	144	149	114	92
Scioto River near Prospect	567	171	617	580	265	124
Scioto River at Higby	5,131	2,556	277	276	226	118
Stillwater River at Pleasant Hill	503	271	457	570	256	91

MEAN STREAM DISCHARGE



Base period for all streams: 1961-1990

Normal - - - - Current - - - -

STREAMFLOW during October was above normal throughout most of Ohio with only the extreme northeastern area of the state having below normal flows. Flows in most drainage basins in the southern two-thirds of the state were high enough to be considered excessive, while in the Grand River basin, it was low enough to be considered deficient.

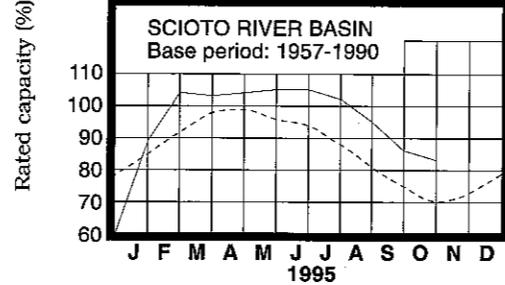
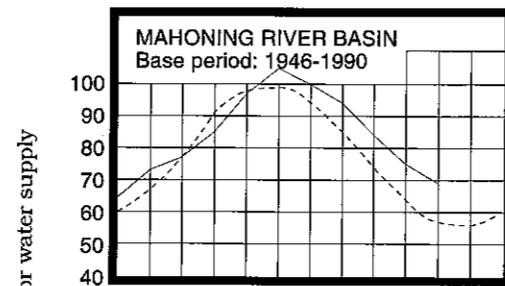
Flows at the beginning of October were noticeably below normal throughout most of Ohio as a result of the markedly below normal precipitation during September. Lowest flows for the month occurred during October 1-3 in all drainage basins. Flows increased sharply following widespread precipitation during October 3-5. Most drainage basins had their highest flows for the month during October 6-7 following these storms. Following these peaks, flows declined slowly through

the end of the month with slight increases noted following local precipitation in most areas of the state. In northeastern Ohio, somewhat greater increases were observed especially after the October 20 storms. Flows at the end of the month were above normal in all but the northeastern drainage basins where they were below normal.

RESERVOIR STORAGE for water supply during October decreased seasonally in both the Mahoning and Scioto river basins. Storage remained above normal in both basins.

Reservoir storage at the end of October in the Mahoning basin index reservoirs was 69 percent of rated capacity for water supply compared with 75 percent for last month and 66 percent for October 1994. Month-end storage in the Scioto basin index reservoirs was 83 percent of rated capacity for water supply compared with 86 percent for last month and 58 percent for October 1994. Surface water supplies are at favorable levels after the first month of the 1996 water year.

RESERVOIR STORAGE FOR WATER SUPPLY



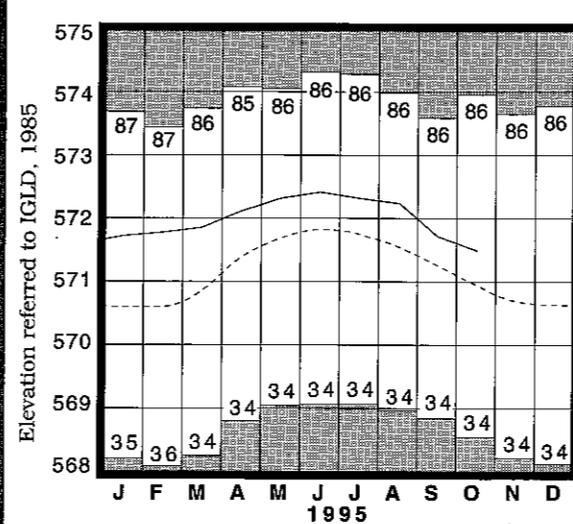
GROUND WATER LEVELS during October showed mixed responses across the state, but most aquifers showed net declines during the month. Declines observed during October from those levels recorded during September were near or slightly greater than usual. Aquifers showing net rises during the month were generally located in the central, western, and southwestern areas of the state.

Ground water levels continue to remain below normal throughout most of the eastern half of the state, but are in better condition at the start of the 1996 water year than they were at the start of the 1995 water year. Ground water levels range from slightly lower than last year's levels in the northwestern area of the state to nearly three feet higher in some eastern areas. The above normal precipitation during October has improved the soil moisture conditions in many areas of the state and bodes well for continued improvement to ground water storage during the upcoming recharge season.

LAKE ERIE level declined during October. The mean level was 571.49 feet (IGLD-1985), 0.23 foot below last month's mean level and 0.53 foot above normal. This month's level is 0.10 foot below the October 1994 level and 2.29 feet above Low Water Datum.

The U. S. Army Corps of Engineers reports that precipitation in the Lake Erie basin during October averaged 3.6 inches, 0.9 inch above normal. The entire Great Lakes basin averaged 4.5 inches of precipitation during October, 1.7 inches above normal. For calendar year 1995 through October, the Lake Erie basin has averaged 27.0 inches of precipitation which is 2.5 inches below normal and the entire Great Lakes basin has averaged 27.6 inches, which is 0.4 inch above normal.

LAKE ERIE LEVELS at Fairport



Base period: 1900-1991

Record high and low, year of occurrence

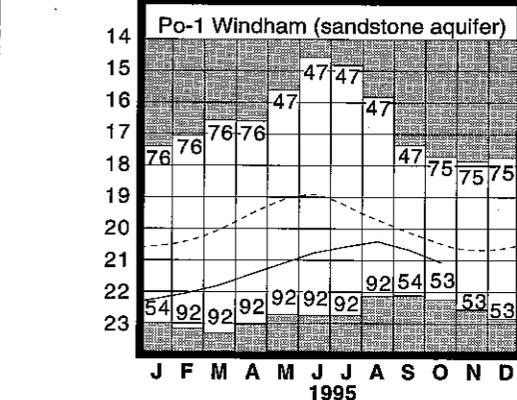
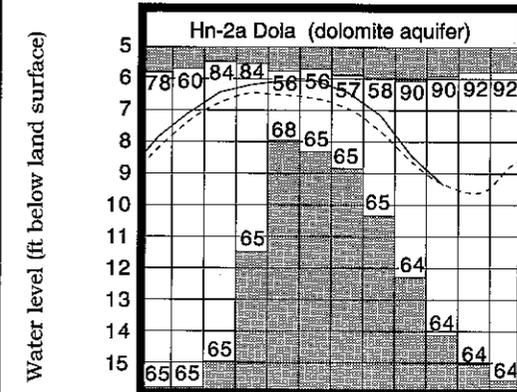
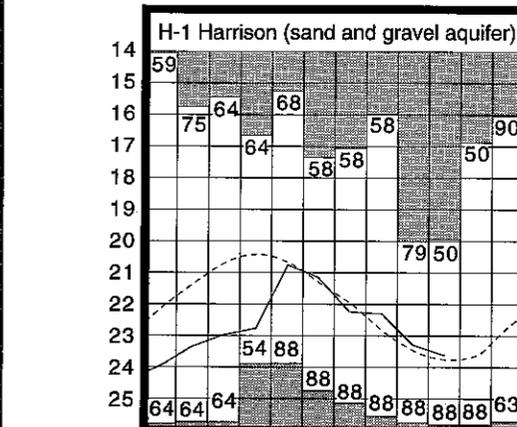
Normal - - - - Current - - - -

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	17.99	-1.10	-1.31	+2.96
Fa-1	Jasper Mill, Fayette Co.	Limestone	8.33	+0.68	+0.14	+1.30
Fr-10	Columbus, Franklin Co.	Gravel	43.36	+1.08	+0.17	+1.82
H-1	Harrison, Hamilton Co.	Gravel	23.61	+0.15	-0.32	+1.00
Hn-2a	Dola, Hardin Co.	Dolomite	9.38	-0.05	-0.95	-0.73
Po-1	Windham, Portage Co.	Sandstone	21.07	-0.60	-0.40	+0.65
Tu-1	Strasburg, Tuscarawas Co.	Gravel	15.92	-2.31	-0.39	+0.04

GROUND-WATER LEVELS



Base periods: H-1, 1951-1990. Hn-2a, 1955-1990.

Po-1, 1947-1990 Record high and low, year of occurrence

Normal - - - - Current - - - -



MONTHLY WATER INVENTORY REPORT FOR OHIO

November 1995

Compiled By David H. Cashell
Hydrologist
Water Inventory Unit

SUMMARY

Precipitation was above normal in the northern half of the state and below normal in the southern half. Streamflow was above normal statewide. Reservoir storage was stable or increased and remained at above normal levels. Ground water levels showed mixed responses and are above normal in the western half of the state and below normal in the eastern half. Lake Erie level declined 0.16 foot and was 0.63 foot above the long-term November average.

NOTES AND COMMENTS

NEW PUBLICATIONS

The Division of Water announces the availability of the following new publications:

- Ground Water Pollution Potential of Franklin County by Michael P. Angle
- Ground Water Pollution Potential of Licking County by Michael P. Angle
- Ground Water Pollution Potential of Miami County by Paul N. Spahr

Ground water pollution potential maps are designed to determine an area's relative vulnerability to ground water pollution. The maps can be used as a planning and management tool for administrators, commissioners, zoning boards and others to aid in making educated decisions about local development and siting of land use operations or activities that can affect ground water quality. The system optimizes the use of existing data to rank areas with respect to pollution potential to help direct investigations and resource expenditures and to prioritize protection, monitoring, and clean-up efforts.

Mapping an area's potential for ground water pollution is a relatively new idea. These maps use the DRASTIC system as developed for the U.S. Environmental Protection Agency by the National Ground Water Association. DRASTIC values, as shown on the maps, indicate an area's relative vulnerability to contamination through the use of a numerical rating scheme and the mapping of hydrogeologic settings. Low DRASTIC values indicate relatively low potential and high DRASTIC values indicate a high potential for contamination. Areas of similar DRASTIC values are color-coded for ease of interpretation.

Ground water pollution potential maps have been published for 35 of Ohio's 88 counties. Each ground water pollution potential map with its accompanying report costs \$10.00. They can be purchased at or ordered from the address listed below.

ODNR Division of Water
Water Resources Section
1939 Fountain Square, Building E-1
Columbus, Ohio 43224-1336
Phone (614) 265-6740

Make checks payable to ODNR Division of Water. If publications are ordered through the mail, please be sure to include the correct postage and handling charges as shown below. Payments can also be made with Visa or MasterCard.

Postage and Handling Charges

Cost of Publications	Add
under \$10.01	\$2.00
\$10.01 - \$20.00	\$3.00
\$20.01 - \$50.00	\$5.00
\$50.01 - \$100.00	\$8.50
\$100.01 and over	\$10.00

NEW EMPLOYEE JOINS DIVISION OF WATER STAFF

Ken Pendley recently joined the Division of Water staff as an administrative assistant. Initially, his duties will center around the development and administration of the new well log system (more at a later date). Eventually, Ken will assist with the development of programs that will utilize well log and other water resource data in conjunction with the Department of Natural Resources' (ODNR) geographical information management system.

Ken spent the past four years working as an environmental scientist for an international consulting firm writing human-health risk assessments, conducting various types of computer and statistical modeling, and developing environmental databases in support of toxicological studies. Prior to this, Ken worked for the ODNR in the Ohio Capability Analysis Program which utilizes geographical information systems to develop decision making tools for government and non-government users.

Away from work, Ken is an avid golfer and also enjoys fossil collecting. The Pendley family, which includes his wife Francie and their new son Thomas, reside in Galena.

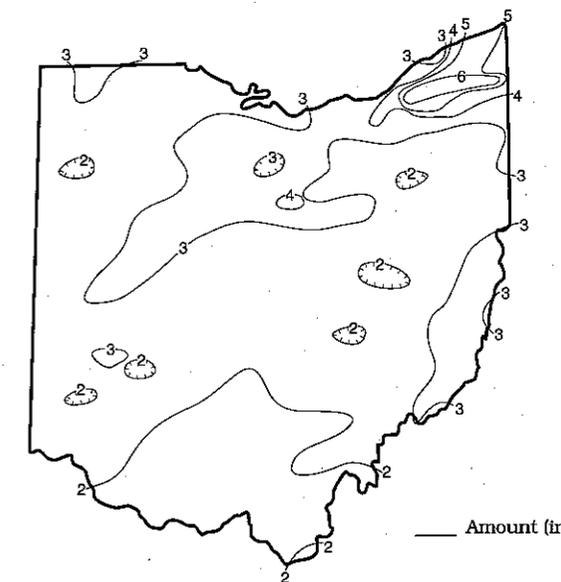
PRECIPITATION during November was generally above normal in the northern half of the state and below normal in the southern half. The state average was 2.71 inches, 0.06 inch above normal. Regional averages ranged from 3.76 inches, 0.88 inch above normal, for the Northeast Region to 1.93 inches, 0.84 inch below normal, for the South Central Region. Chardon (Geauga County) reported the greatest amount of precipitation for the month, 6.83 inches. Greenup Locks and Dam (Scioto County) reported the least amount, 1.18 inches.

Precipitation during November fell as both rain and snow with temperatures averaging noticeably below normal throughout the month. The month started with several days of precipitation. Many areas of the state received about 1 inch of precipitation by November 7. The month's heaviest storms crossed the state during November 10-11 with another 1 inch of precipitation falling at many locations. Scattered precipitation, mainly in the form of snow, continued to fall during the next week with the greatest amounts reported in the northeastern Ohio snowbelt area. Chardon (Geauga County) reported 23 inches of snow for the month, nearly twice the average amount for November. The last 10 days of the month were much drier in most areas of the state with only small amounts of precipitation reported on a few days.

Precipitation for the 1995 calendar year is above normal throughout most of the state, but below normal in the Northwest, Northeast Hills, and Southeast regions. The state average is 37.00 inches, 2.01 inches above normal. Regional averages range from 40.63 inches, 3.18 inches above normal, for the Southwest Region to 30.11 inches, 1.40 inches below normal, for the Northwest Region.

Precipitation for the 1996 water year (October 1, 1995 to September 30, 1996) is above normal throughout the state. The state average is 7.12 inches, 2.13 inches above normal. Regional averages range from 8.79 inches, 3.19 inches above normal, for the Northeast Region to 5.71 inches, 0.70 inch above normal, for the South Central Region.

PRECIPITATION NOVEMBER 1995

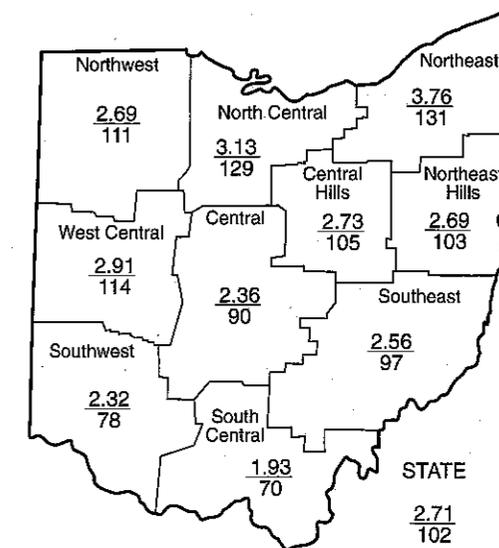


PRECIPITATION

Region	DEPARTURE FROM NORMAL (IN.)					Palmer Drought Severity Index*
	This Month	Past				
		3 Mos.	6 Mos.	12 Mos.	24 Mos.	
Northwest	+0.26	+0.18	-1.13	-1.16	-7.79	+1.5
North Central	+0.70	+0.79	+1.63	+4.88	+1.15	+1.4
Northeast	+0.88	+1.34	+0.61	+1.01	+1.84	+1.4
West Central	+0.35	+0.88	+4.67	+5.53	-1.44	+2.7
Central	-0.26	+0.08	+3.99	+5.15	+0.73	+1.9
Central Hills	+0.12	+1.02	+2.16	+4.13	+2.62	+1.2
Northeast Hills	+0.09	+0.56	-1.03	-2.15	-0.60	+0.6
Southwest	-0.66	-0.13	+1.13	+2.88	-1.33	+0.7
South Central	-0.84	-0.37	-0.25	+0.06	+1.25	+0.8
Southeast	-0.08	+0.88	-0.94	-0.16	+1.70	+0.8
State	+0.06	+0.52	+1.09	+2.04	-0.15	

*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

ACKNOWLEDGMENTS

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- 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, Mustangum 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.



DIVISION OF WATER
1939 FOUNTAIN SQUARE
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Michelle Willis
Chief

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MEAN STREAM DISCHARGE

River and Location	Drainage Area (Sq. Mi.)	Mean Discharge (CFS)	% of Normal	This Month		
				% of Normal Past		
				3 Mos.	6 Mos.	12 Mos.
Grand River near Painesville	685	1,877	147	88	72	78
Great Miami River at Hamilton	3,630	3,006	230	178	217	107
Huron River at Milan	371	184	211	116	154	93
Killbuck Creek at Killbuck	464	309	150	122	128	88
Little Beaver Creek near East Liverpool	496	338	148	93	110	78
Maumee River at Waterville	6,330	3,474	195	113	109	75
Muskingum River at McConnelsville	7,422	5,218	111	98	115	95
Scioto River near Prospect	567	510	526	317	340	132
Scioto River at Higby	5,131	3,810	202	153	233	122
Stillwater River at Pleasant Hill	503	450	489	269	255	98

STREAMFLOW during November was above normal throughout the state. Flows in the western, central, and north-central areas of the state were high enough to be considered excessive. Flows increased seasonally during November and were noticeably higher than those flows recorded during October.

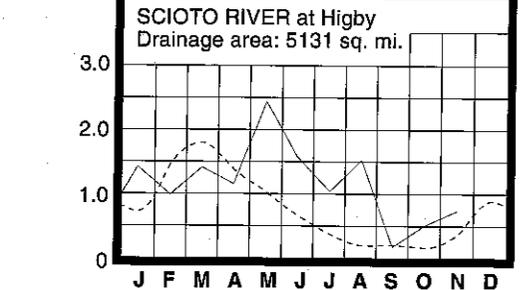
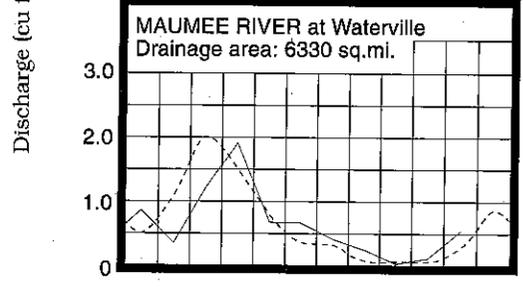
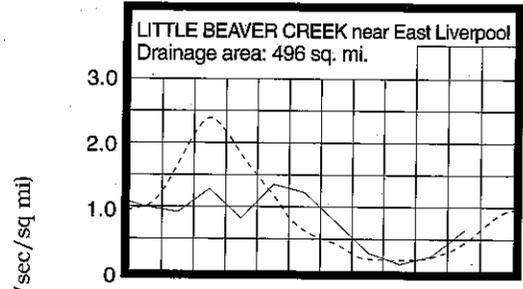
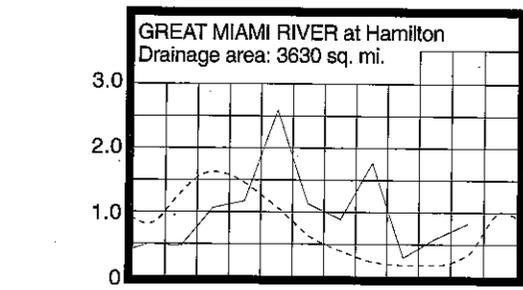
Flows at the beginning of November were below normal throughout the state. These were the lowest flows observed during the first half of the month after local precipitation, peaking during November 12-14 following the month's heaviest storms. Flows declined through the end of the month with slight increases noted following local precipitation.

At the end of November, flows were above normal in the southern two-thirds of the state, but below normal in the northern one-third.

RESERVOIR STORAGE for water supply during November increased in the Scioto basin index reservoirs and was unchanged in the Mahoning basin index reservoirs. Storage remained at above-normal seasonal levels in both basins.

Reservoir storage at the end of November in the Mahoning basin index reservoirs was 69 percent of rated capacity for water supply compared with the same value for last month and 63 percent for November 1994. Month-end storage in the Scioto basin index reservoirs was 90 percent of rated capacity for water supply compared with 83 percent for last month and 52 percent for November 1994. Surface water supplies are in good condition throughout the state.

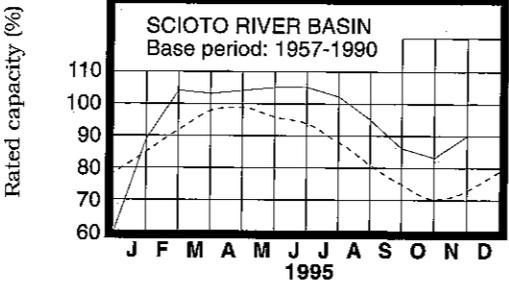
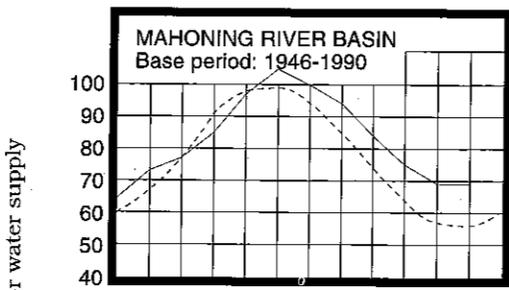
MEAN STREAM DISCHARGE



Base period for all streams: 1961-1990

Normal - - - - Current - - - -

RESERVOIR STORAGE FOR WATER SUPPLY



GROUND WATER LEVELS during November showed mixed responses across Ohio, staying stable or rising in many areas, but declining in other areas where precipitation has not been as abundant. Ground water levels across the state are higher than those levels observed a year ago, ranging from slightly above to nearly three feet higher than the November 1994 levels.

Ground water levels continue to remain below normal in much of the eastern half of Ohio. The 1996 water year is off to a good start as far as precipitation is concerned. Conditions appear to be favorable for continued improvement in ground water storage during the 1996 water year recharge period provided climatic conditions are near normal.

LAKE ERIE level declined seasonally during November. The mean level was 571.33 feet (IGLD-1985), 0.16 foot below last month's mean level and 0.63 foot above normal. This month's level is 0.35 foot below the November 1994 level and 2.13 feet above Low Water Datum.

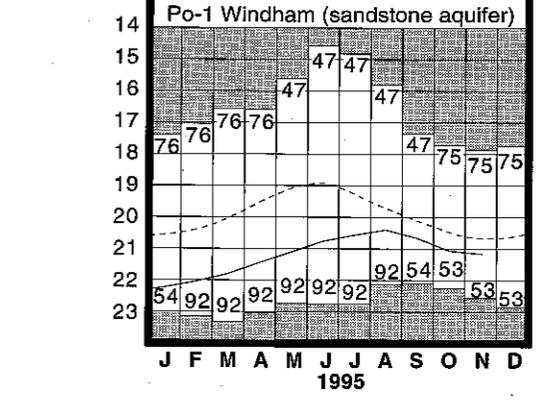
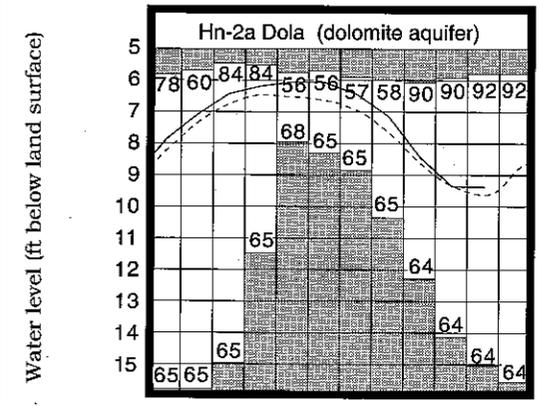
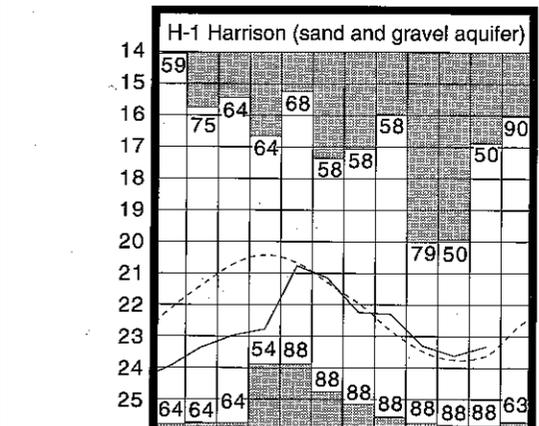
The U. S. Army Corps of Engineers reports that precipitation in the Lake Erie basin during November averaged 3.9 inches, 1.1 inches above normal. The entire Great Lakes basin averaged 3.9 inches of precipitation during November, 1.2 inches above normal. For calendar year 1995 through November, the Lake Erie basin has averaged 30.9 inches of precipitation, which is 1.4 inches below normal, and the entire Great Lakes basin has averaged 31.5 inches, which is 1.5 inches above normal.

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	18.70	-1.44	-0.71	+2.76
Fa-1	Jasper Mill, Fayette Co.	Limestone	7.83	+1.12	+0.50	+2.11
Fr-10	Columbus, Franklin Co.	Gravel	42.95	+1.34	+0.41	+1.88
H-1	Harrison, Hamilton Co.	Gravel	23.32	+0.34	+0.29	+1.17
Hn-2a	Dola, Hardin Co.	Dolomite	9.39	+0.24	-0.01	+0.01
Po-1	Windham, Portage Co.	Sandstone	21.17	-0.49	-0.10	+1.02
Tu-1	Strasburg, Tuscarawas Co.	Gravel	15.98	-2.42	-0.06	+0.22

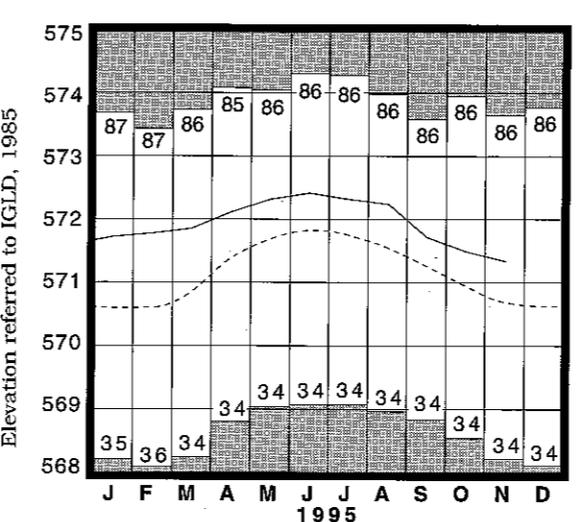
GROUND-WATER LEVELS



Base periods: H-1, 1951-1990. Hn-2a, 1955-1990. Po-1, 1947-1990

Normal - - - - Current - - - -

LAKE ERIE LEVELS at Fairport



Base period: 1900-1991

Normal - - - - Current - - - -



MONTHLY WATER INVENTORY REPORT FOR OHIO

December 1995

Compiled By David H. Cashell
Hydrologist
Water Inventory Unit

(continued from front page)

Region to 31.21 inches, 2.61 inches below normal, for the Northwest Region (see Precipitation table, departure from normal, past 12 months column). Piqua (Miami County) reported the greatest amount of precipitation during the year, 55.57 inches. Hicksville (Defiance County) reported the least amount, 26.64 inches. An isohyetal map and regional averages with percentages of normal precipitation for the 1995 calendar year appear below.

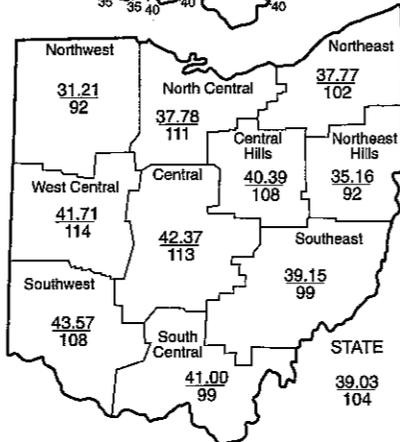
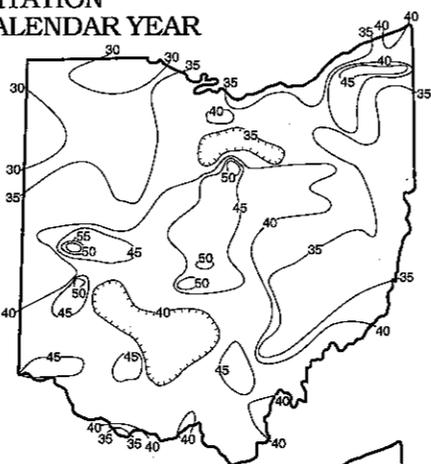
The 1995 calendar year started off with above normal precipitation during January in all but the west-central and southwest areas of the state, but returned to unusually below normal levels during February and March, a trend that started during the autumn months of 1994. Precipitation during April was above normal in the central and western areas of the state, but continued to be below normal in the eastern and south-central areas. Precipitation was noticeably above normal in May, ranking as the eighth wettest on record, and also in June, which caused some delays in the planting of agricultural crops. Many areas of the state had below normal precipitation during July, but the central, west-central and northeastern areas had above normal precipitation. August precipitation was above normal in the western two-thirds of Ohio, but continued to be below normal in the eastern one-third. The entire state was unusually dry during September which ranked as the seventh driest on record. Conditions changed abruptly during October as the remnants of tropical storms and hurricanes passed through the state resulting in October 1995 being the eleventh wettest on record. November precipitation was above normal in the northern half of the state, but below normal in the southern half. The year ended with below normal precipitation throughout most of Ohio during December. Water supplies and agricultural crops fared well in most areas of the state during 1995 even with the fluctuating precipitation conditions.

SUMMARY

Precipitation during December was below normal throughout most of Ohio. Streamflow was below normal statewide. Reservoir storage decreased slightly. Ground water levels showed mixed responses and remained at below normal levels in the eastern half of the state. Lake Erie level declined 0.10 foot and was 0.60 foot above the long-term December average.

Precipitation for the 1995 calendar year was above normal in many areas of the state, but below normal in northwestern, eastern and southeastern Ohio. Streamflow was below normal in most areas, but above normal in central, south-central and southwestern Ohio. Reservoir storage was at above normal levels throughout most of the year. Ground water levels improved during the year, but remained at below normal levels at the end of the year in the eastern half of the state. Lake Erie was above its long-term average level throughout the year.

PRECIPITATION 1995 CALENDAR YEAR



PRECIPITATION during December was below normal throughout most of Ohio with only the Southwest Region having slightly above normal precipitation. The state average was 2.07 inches, 0.51 inch below normal. Regional averages ranged from 2.87 inches, 0.05 inch above normal, for the Southwest Region to 1.02 inches, 1.29 inches below normal, for the Northwest Region. Painesville (Lake County) reported the greatest amount of precipitation for the month, 5.20 inches. Wauseon (Fulton County) reported the least amount, only 0.47 inch.

Precipitation during December fell as both rain and snow. Generally, the southern half of the state received more than two inches of precipitation during the month while the northern half received less than two inches. The exception was in the northeastern Ohio snowbelt area where from two to more than five inches of precipitation fell. Many areas, especially in the northern half of the state, reported above normal snow for the month. Chardon (Geauga County) reported 50.5 inches of snow in December, more than twice the average amount. For the season, Chardon has received about 74 inches of snow through the end of December. Cleveland Hopkins Airport reported 29.6 inches, just shy of its record December amount of 30.3 inches recorded in 1962.

The first twelve days of December were rather dry in most areas of the state with only small amounts of precipitation reported. The remainder of the month was much wetter with precipitation reported on several days, but only two periods had significant amounts of precipitation. The first was during December 12-15 when most areas of the state received around 0.5 inch of precipitation. The second was during December 18-21 when most areas of the state received more than 1 inch of precipitation with some locations approaching 2 inches. Rain changing to freezing rain and heavy snow gave many areas their first winter storm of the season. This storm missed most of the northwestern area of Ohio. Most of the snow that fell during this storm remained on the ground through the holiday season, but began to melt at the end of the year as warmer temperatures and light showers brought in the new year.

Precipitation for the 1996 water year is above normal throughout the state. The state average is 9.15 inches, 1.58 inches above normal. Regional averages range from 1.14 inches, 3.10 inches above normal, for the Northeast Region to 7.78 inches, 0.75 inch above normal, for the Northwest Region. Even with the below normal precipitation during December, the 1996 water year is off to a good start as far as precipitation for ground water supply recharge is concerned.

Precipitation for the 1995 calendar year was above normal throughout most of Ohio but below normal in the northwestern, eastern and southeastern areas of the state. The state average was 39.03 inches, 1.46 inches above normal. Regional averages ranged from 43.57 inches, 3.30 inches above normal, for the Southwest

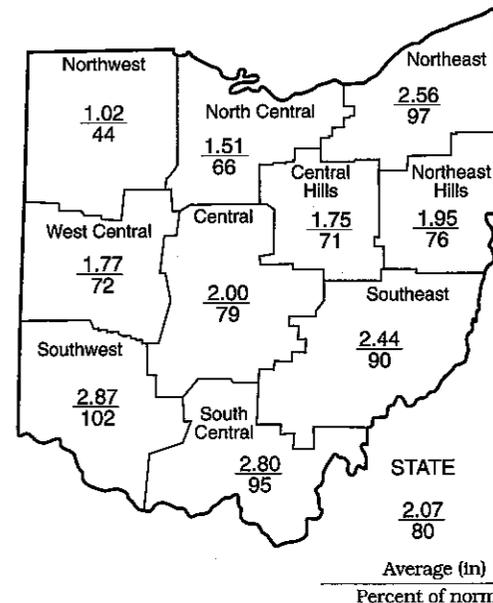
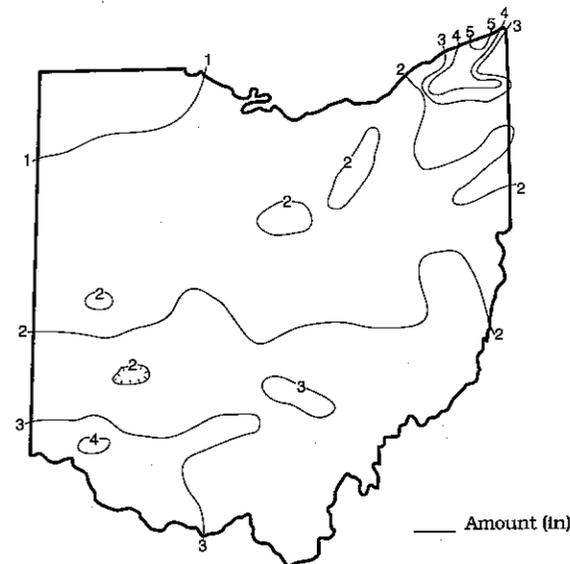
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PRECIPITATION

Region	DEPARTURE FROM NORMAL (IN.)					Palmer Drought Severity Index*
	This Month	3 Mos.	6 Mos.	12 Mos.	24 Mos.	
Northwest	-1.29	+0.75	-2.33	-2.61	-7.96	+0.8
North Central	-0.77	+1.75	+1.45	+3.75	+0.66	+1.6
Northeast	-0.08	+3.10	+0.61	+0.80	+1.76	+1.7
West Central	-0.70	+1.74	+3.52	+5.02	-1.89	+2.5
Central	-0.53	+1.26	+1.85	+4.76	+0.65	+2.1
Central Hills	-0.72	+1.98	+1.01	+2.99	+1.80	+1.6
Northeast Hills	-0.63	+1.41	-2.30	-2.87	-1.01	+0.6
Southwest	+0.05	+1.48	+0.94	+3.30	-0.64	+1.5
South Central	-0.16	+0.54	-0.60	-0.29	+1.68	+1.0
Southeast	-0.28	+1.74	-1.63	-0.44	+2.09	+1.3
State	-0.51	+1.58	+0.26	+1.46	-0.25	

*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 DECEMBER 1995



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.



DIVISION OF WATER
1939 FOUNTAIN SQUARE
COLUMBUS, OHIO 43224

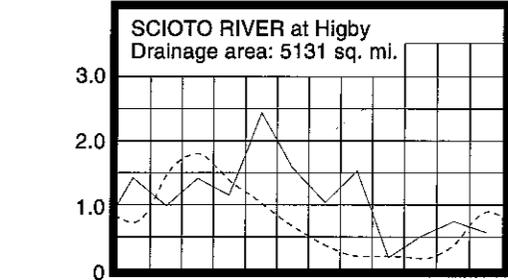
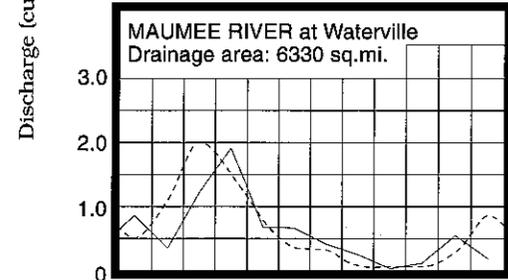
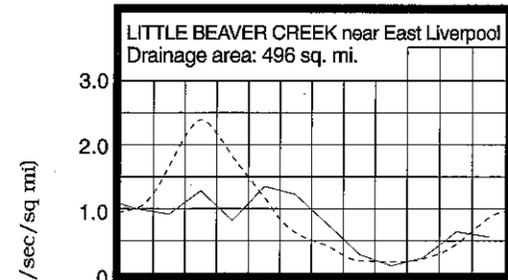
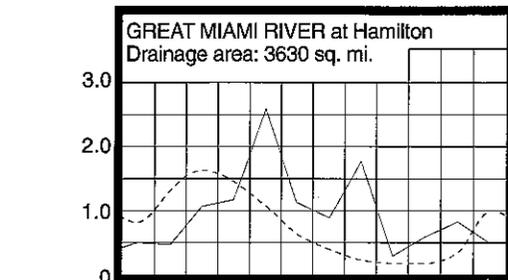
- George V. Vohnovich
Governor
Donald C. Anderson
Director
Michele Willis
Chief

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MEAN STREAM DISCHARGE

River and Location	Drainage Area (Sq. Mi.)	Mean Discharge (CFS)	% of Normal	% of Normal Past		
				3 Mos.	6 Mos.	12 Mos.
				This Month		
Grand River near Painesville	685	1,635	97	97	85	82
Great Miami River at Hamilton	3,630	1,780	48	118	167	109
Huron River at Milan	371	98	66	102	85	93
Killbuck Creek at Killbuck	464	195	52	103	99	88
Little Beaver Creek near East Liverpool	496	284	64	99	89	73
Maumee River at Waterville	6,330	1,182	22	59	73	74
Muskingum River at McConnsville	7,422	3,961	56	90	96	93
Scioto River near Prospect	567	132	50	193	223	132
Scioto River at Higby	5,131	2,934	64	124	176	124
Stillwater River at Pleasant Hill	503	137	34	147	178	98

MEAN STREAM DISCHARGE



Base period for all streams: 1961-1990

Normal - - - - Current - - - -

STREAMFLOW during December was below normal throughout the state. Flows in northwestern Ohio were low enough to be considered deficient. Flows during December, contrary to the normal seasonal trend, were less than the flows recorded during November.

Flows at the beginning of December were below normal throughout the state. Generally, flows declined during the first two weeks of the month with the lowest flows for December occurring sometime between December 9-13 in most areas of the state. Flows increased following precipitation at mid-month and again following widespread precipitation during December 18-19. Greatest flows for the month occurred on December 15 in Northern Ohio and during December 1920 in the southern two-thirds of the state. Flows declined during the last ten days of the month and were noticeably below normal at the month's end.

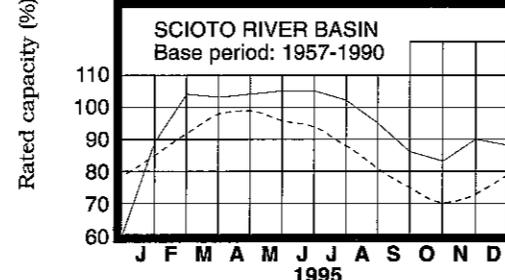
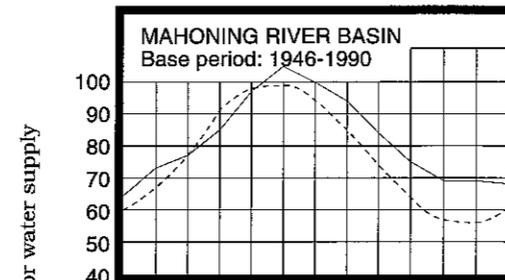
Streamflow during the 1995 calendar year was below normal in many areas of the state, but above normal in some southwestern, central and south-central Ohio drainage basins (see Mean Stream Discharge table, percent of normal past twelve months column). Annual flows in northeastern Ohio were low enough to be considered deficient. Streamflow during January was above normal in most areas of the state with minor flooding reported following snowmelt and precipitation. Below normal precipitation resulted in below normal streamflows during February, March, and April throughout most of Ohio, but some minor flooding occurred in the northwestern and north-central areas of the state during April. Most of Ohio saw noticeably above normal flows during the May through August period. The exception was in northeastern Ohio where flows were consistently below normal throughout this period. Flash floods occurred in the south-central area of Ohio during May and small stream and urban flooding was reported during June and July. The most notable flooding during 1995 occurred during August with western, central and southern Ohio being hardest hit. An unusually dry September reduced flows noticeably statewide, but the remnants of several tropical storms and hurricanes passed through Ohio in early October and streamflows returned to above normal levels after the one-month hiatus. Flows remained above normal during November, but fell to below normal levels during December.

RESERVOIR STORAGE for water supply during December declined slightly in both the Mahoning and Scioto river basins. Storage remained at above normal seasonal levels in both basins.

Reservoir storage at the end of December in the Mahoning basin index reservoirs was 68 percent of rated capacity for water supply compared with 69 percent for last month and 64 percent for December 1994. Month-end storage in the Scioto basin index reservoirs was 88 percent of rated capacity for water supply compared with 90 percent for last month and 58 percent for December 1994. Surface-water supplies are in good condition at the end of the 1995 calendar year.

Surface-water supplies were near or above normal throughout the 1995 calendar year. Some reservoirs in the Scioto River basin were at exceptionally below normal levels at the start of the year, but quickly recovered to above normal levels

RESERVOIR STORAGE FOR WATER SUPPLY



with run-off from snowmelt and precipitation. Adequate, and at times excessive, precipitation during the summer months kept reservoirs levels above normal and also reduced demand for public water supplies.

GROUND WATER LEVELS during December showed mixed responses across the state. Levels in most aquifers were stable or declined slightly during the first half of the month. During the second half of the month, levels in some aquifers, especially shallow unconsolidated aquifers, rose in response to precipitation while levels continued to slowly decline in most deeper aquifers. In any case, net changes during December from November's levels were less than usually observed.

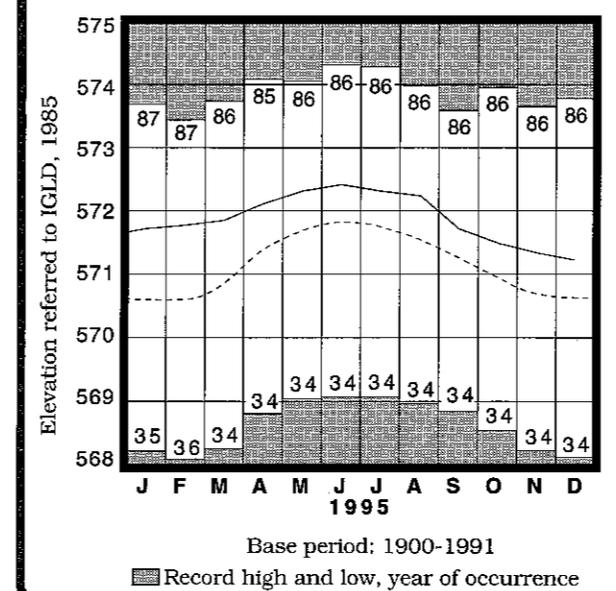
Ground water levels continue to remain below normal in much of the eastern half of the state; however, the prognosis is more optimistic than last year since current levels range from slightly higher to nearly three feet higher than the levels observed a year ago. Hydrologic conditions during the past few months have provided favorable conditions for the start of the 1996 water recharge season. With near normal precipitation and other climatic conditions, the prospect for adequate recharge during the next several months is good.

Ground water storage during the 1995 calendar year improved throughout the state. At the beginning of the year, levels were noticeably below normal in most areas of the state as a result of several unusually dry summer and fall months in 1994. Continued below normal precipitation during the late winter and early spring months in 1995 resulted in limited recharge, and ground water levels remained below normal through May. Adequate, and at times excessive, precipitation during the late spring and early summer months provided much needed recharge and reduced demand on both public and private water supplies. Some areas in the eastern half of the state, especially the northeastern section, received somewhat less rainfall and ground water levels have remained at below normal levels. Coupled with the recent hydrologic conditions and with adequate precipitation during the next several months, recharge should be ample to improve this situation. Generally, ground water supplies are adequate at the end of the 1995 calendar year.

LAKE ERIE level declined seasonally during December. The mean level was 571.23 feet (IGLD-1985), 0.10 foot below last month's mean level and 0.60 foot above normal. This month's level is 0.36 foot lower than the December 1994 level and 2.03 feet above Low Water Datum.

The U. S. Army Corps of Engineers reports that precipitation in the Lake Erie basin during December averaged 1.7 inches, 0.9 inch below normal. The entire Great Lakes basin averaged 2.1 inches of precipitation during December, 0.2 inch below normal. For calendar year 1995, the Lake Erie basin averaged 32.6 inches of precipitation, 2.3 inches below normal and the entire Great Lakes basin averaged 33.6 inches, 1.3 inches above normal.

LAKE ERIE LEVELS at Fairport



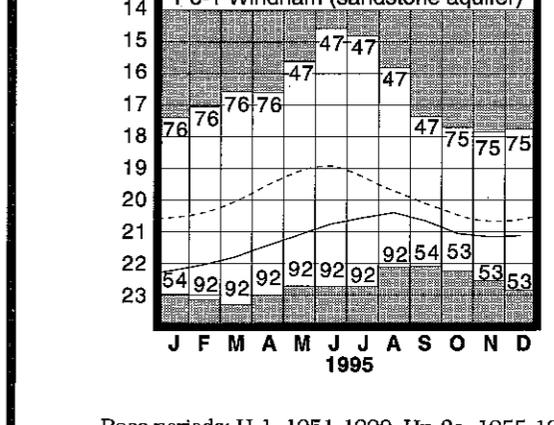
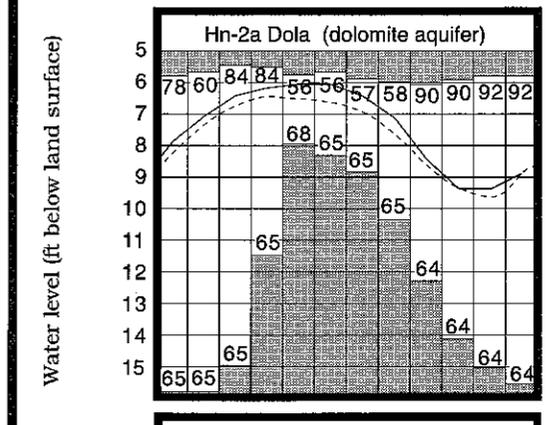
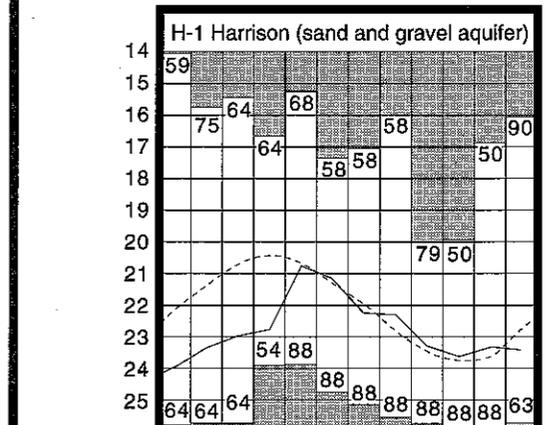
Normal - - - - Current - - - -

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	18.90	-2.05	-0.20	+2.82
Fa-1	Jasper Mill, Fayette Co.	Limestone	7.58	+0.58	+0.25	+1.90
Fr-10	Columbus, Franklin Co.	Gravel	42.76	+1.34	+0.19	+1.69
H-1	Harrison, Hamilton Co.	Gravel	23.41	-0.59	-0.09	+1.04
Hn-2a	Dola, Hardin Co.	Dolomite	8.90	+0.04	+0.49	+0.28
Po-1	Windham, Portage Co.	Sandstone	21.14	-0.53	+0.03	+1.19
Tu-1	Strasburg, Tuscarawas Co.	Gravel	16.10	-2.82	-0.12	+0.11

GROUND-WATER LEVELS



Base periods: H-1, 1951-1990. Hn-2a, 1955-1990. Po-1, 1947-1990

Normal - - - - Current - - - -