U.S. DEPARTMENT OF THE INTERIOR
U.S. GEOLOGICAL SURVEY

Prepared in cooperation with the
ARKANSAS GEOLOGICAL COMMISSION, the ARKANSAS
SOIL AND WATER CONSERVATION COMMISSION, LOCAL
CONSERVATION DISTRICTS, and the U.S. SOIL
CONSERVATION SERVICE

OPEN-FILE REPORT 93-374
Westerfield, P.W. and Poynter, D.T., 1993 Water-level maps of the Mississippi River vally alluvial aquifer in eastern Arkansas, sspring 1992

INTRODUCTION

The study area, which coincides with the Mississippi Alluvial Plain section of the Coastal Plain physiographic province in Arkansas, is bounded on the north by the Missouri State line, on the south by the Louisiana State line, and on the east by the Mississippi River. The Fall Line (the physiographic boundary between the Coastal Plain and the Interior Highlands), the Monticello Ridge, and the Ouachita River Basin form the western boundary of the study area.

The predominant land use in the study area is agriculture. Rice and soybeans, the principal crops, are dependent on large quantities of fresh water for irrigation. The main source of irrigation water is the Mississippi River Valley alluvial aquifer, herein referred to as the alluvial aquifer. Approximately 4,376 Mgal/d of water were withdrawn from the alluvial aquifer in 1990 (Holland, 1993), most of the use is for agricultural irrigation and the predominant crop type is rice.

The U.S. Geological Survey, in cooperation with the Arkansas Geological Commission, has been monitoring water levels for 48 years in a network of wells completed in the alluvial aquifer to determine the effects on water levels of large withdrawals for irrigation. In 1984, this network was enlarged by adding wells for which water levels are measured by personnel of the local districts of the U.S. Soil Conservation Service. Water-level measurements made in more than 700 wells in both networks in 1992 were used to prepare the water-level maps presented in this report. This report was prepared in cooperation with the Arkansas Geological Commission, the Arkansas Soil and Water Conservation Commission, local conservation districts, and the U.S Soil Conservation Service, and is intended to document the effects of withdrawals on water levels in the alluvial aquifer.

Maps shown in this report were prepared from data collected by the U.S. Geological Survey and the U.S. Soil Conservation Service. The map report shows the potentiometric surface in the alluvial aquifer before (spring) the 1992 pumping season, the change between the spring 1987 and the spring 1992 potentiometric surfaces, and the depth to water in the spring of 1992. Hydrographs show water-level changes from spring 1963 to spring 1992 in Arkansas, Chicot, Crittenden, Lonoke, and Poinsett Counties. Water-level measurements made by U.S. Geological Survey personnel in 257 wells completed in the alluvial aquifer are included in table 1. Water-level measurements made by personnel of the U.S. Soil Conservation Service are available in a separate report (Westerfield and Touschner, 1993).

AQUIFER DESCRIPTION

The Mississippi River Valley alluvium is composed of flood-plain and terrace deposits of Quaternary age. The flood-plain deposits generally grade from gravel and coarse sand in the lower part to silt and clay in the upper part. Lithology of the terrace deposits is similar to that in the flood plain (Boswell and others, 1968).

The total thickness of the alluvium ranges from near zero along the Fall Line to a maximum of about 250 ft. The upper silt and clay layer varies in thickness from a few feet to more than 75 ft and forms a confining layer for the underlying alluvial aquifer. The alluvial aquifer generally is 100 to 150 ft thick. Intensive ground-water withdrawals in some areas have resulted in the long-term decline of water levels below the top of the aquifer. Yields of wells generally range from 1,000 to 3,000 gal/min (Petersen and others, 1985). The alluvium is discontinuous at Crowleys Ridge, an erosional remnant of deposits of Tertiary age that extends from north of the Missouri-Arkansas boundary southward to Helena, Arkansas. These Tertiary deposits are much less permeable than the alluvial aquifer (Boswell and others, 1968).

POTENTIOMETRIC-SURFACE MAP

The potentiometric-surface map indicates the altitude to which water levels would rise in tightly cased wells completed in the alluvial aquifer. A potentiometric surface map is shown for spring 1992. This map reflects conditions preceding the seasonal withdrawals for irrigation and is based on water-level measurements made in 717 wells between March and June 1992. The potentiometric-surface map includes stage measurements at gaging stations on streams and rivers. Stage data are used to assess the relation between streams and the aquifer.

The potentiometric-surface map reflects the areal ground-water flow patterns within the alluvial aquifer, with movement generally being perpendicular to the contours in the direction of the hydraulic gradient. The regional direction of ground-water flow is to the south and southeast except where affected by intensive ground-water withdrawals and near rivers that are in hydraulic connection with the alluvial aquifer. In parts of Arkansas, Lonoke, and Prairie Counties, and from Monroe County to western Craighead County are large areas where the potentiometric surface has been depressed by large withdrawals of ground-water for irrigation.

Water levels are highest in the spring when water levels have recovered from the previous year's withdrawals and lowest in the fall at the end of the irrigation season. Water levels average about 2.6 ft lower in the fall than the spring (Westerfield and Touschner, 1993).

FIVE-YEAR WATER-LEVEL CHANGE MAP

The 5-year water-level change map reflects the differences between the spring 1987 and spring 1992 potentiometric surfaces. Declines of more than 5 ft occurred in many areas primarily as a result of ground-water withdrawals for irrigation. The largest areas of decline were noted west of Crowleys Ridge in Craighead and Poinsett Counties, and in three other areas extending from northern Arkansas County into Lonoke, Prairie and White Counties. Withdrawals from the alluvial aquifer during 1990 totaled 641 Mgal/d in Craighead and Poinsett Counties and 847 Mgal/d in Arkansas, Lonoke, Prairie, and White Counties (Holland, 1993). Withdrawal totals for 1992 were not available but probably were similar to those in 1990. In many areas, water levels rose 5 ft or more in response to higher stream stages or reduced ground-water withdrawals.

DEPTH-TO-WATER MAP

Water levels in the alluvial aquifer are shallowest near the Fall Line and near large streams, such as the Arkansas, Mississippi, and White Rivers, that are in hydraulic connection with the aquifer. The water levels are shallow (less than 20 ft below land surface) along the Fall Line because the aquifer is nearer the surface in this area. Water levels are shallow near large streams for two reasons: (1) decreased use of ground water due to the availability of surface water, and (2) recharge to the aquifer by water from the stream. Water levels more than 100 ft below land surface occur in two areas: the first area is located in Arkansas, Lonoke, and Prairie Counties and the second area is in Cross and Poinsett Counties west of Crowleys Ridge. Both of these areas have large ground-water withdrawals.

LONG-TERM HYDROGRAPHS

Hydrographs for wells in the alluvial aquifer in Arkansas, Chicot, Crittenden, Lonoke, and Poinsett Counties illustrate water-level changes from spring 1963 to spring 1992. The wells in Lonoke and Poinsett Counties are in areas of large withdrawals, and the respective hydrographs show nearly continuous water-level declines that average 1.4 ft/yr. The well in Arkansas County also is in an area of large ground-water withdrawal and its hydrograph shows declines that average 0.6 ft/yr. The hydrographs for the wells in Chicot and Crittenden County indicate no long-term change or trend in water levels for the last 20 years, but show small yearly fluctuations that probably are influenced by the stage in the Mississippi River.

WELL-NUMBERING SYSTEM

The well-numbering system used in this report is based upon the location of the wells according to the Federal land survey used in Arkansas. The component parts of a well number are the township number, the range number, the section number, and three letters which indicate, respectively, the quarter section, the quarter-quarter section, and the quarter-quarter-quarter section in which the well is located. The letters are assigned counterclockwise, beginning with "A" in the northeast quarter or quarter-quarter or quarter-quarter-quarter section in which the well is located. For example, well 05N07E28CBA1 is located in Township 5 North, Range 7 East, and in the northeast quarter of the northwest quarter of the southwest quarter of section 28. This well is the first well in this quarter-quarter-quarter section of section 28 from which data were collected.

SELECTED REFERENCES

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----- 1992, Ground-water levels in the alluvial aquifer in eastern Arkansas, 1991: U.S. Geological Survey Open-File Report 92-46, 24 p.

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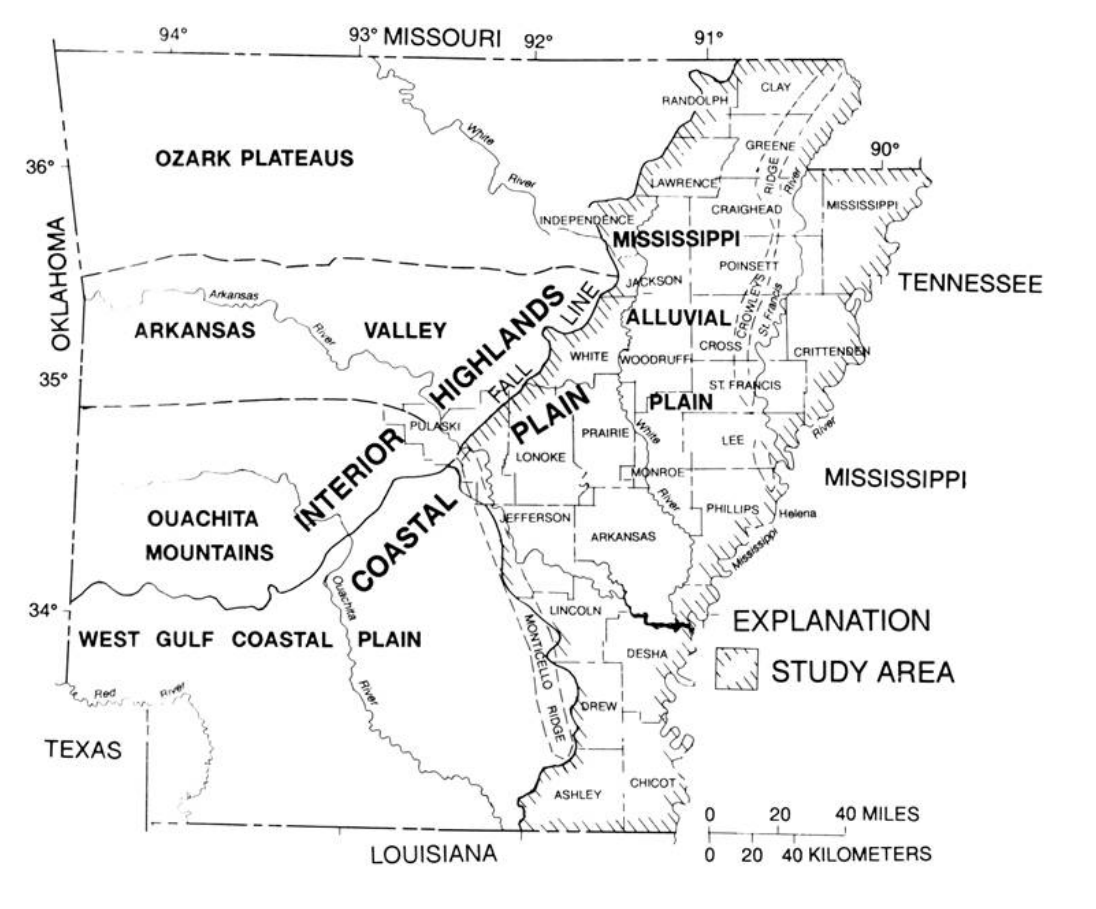
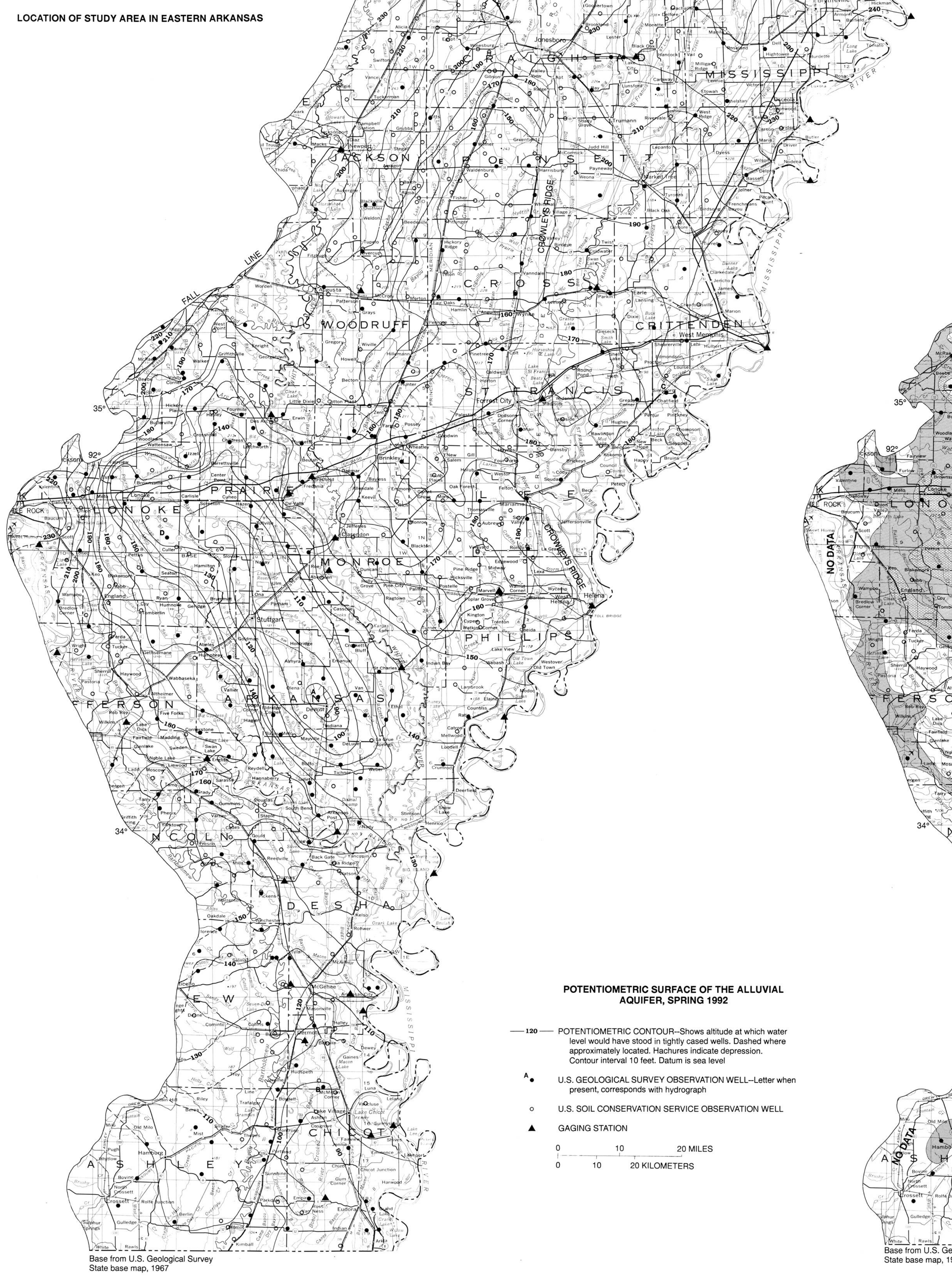
CONVERSION FACTORS AND VERTICAL DATUM

Multiply	By	To obtain
foot (ft)	0.3048	meter
foot per year (ft/year)	0.3048	meter per year
gallon per minute (gal/min)	0.06309	liter per second
million gallons per day (Mgal/d)	0.04381	cubic meter per second

Sea level: In this report, "sea level" refers to the National Geodetic Vertical Datum of 1929 (NGVD of 1929)--a geodetic datum derived from a general adjustment of the first-order level nets of the United States and Canada, formerly called Sea Level Datum of 1929.



LOCATION OF STUDY AREA IN EASTERN ARKANSAS



POTENTIOMETRIC SURFACE OF THE ALLUVIAL AQUIFER, SPRING 1992

—120—	POTENTIOMETRIC CONTOUR--Shows altitude at which water level would have stood in tightly cased wells. Dashed where approximately located. Hachures indicate depression. Contour interval 10 feet. Datum is sea level
A●	U.S. GEOLOGICAL SURVEY OBSERVATION WELL--Letter when present, corresponds with hydrograph
○	U.S. SOIL CONSERVATION SERVICE OBSERVATION WELL
▲	GAGING STATION

0 10 20 MILES
0 10 20 KILOMETERS

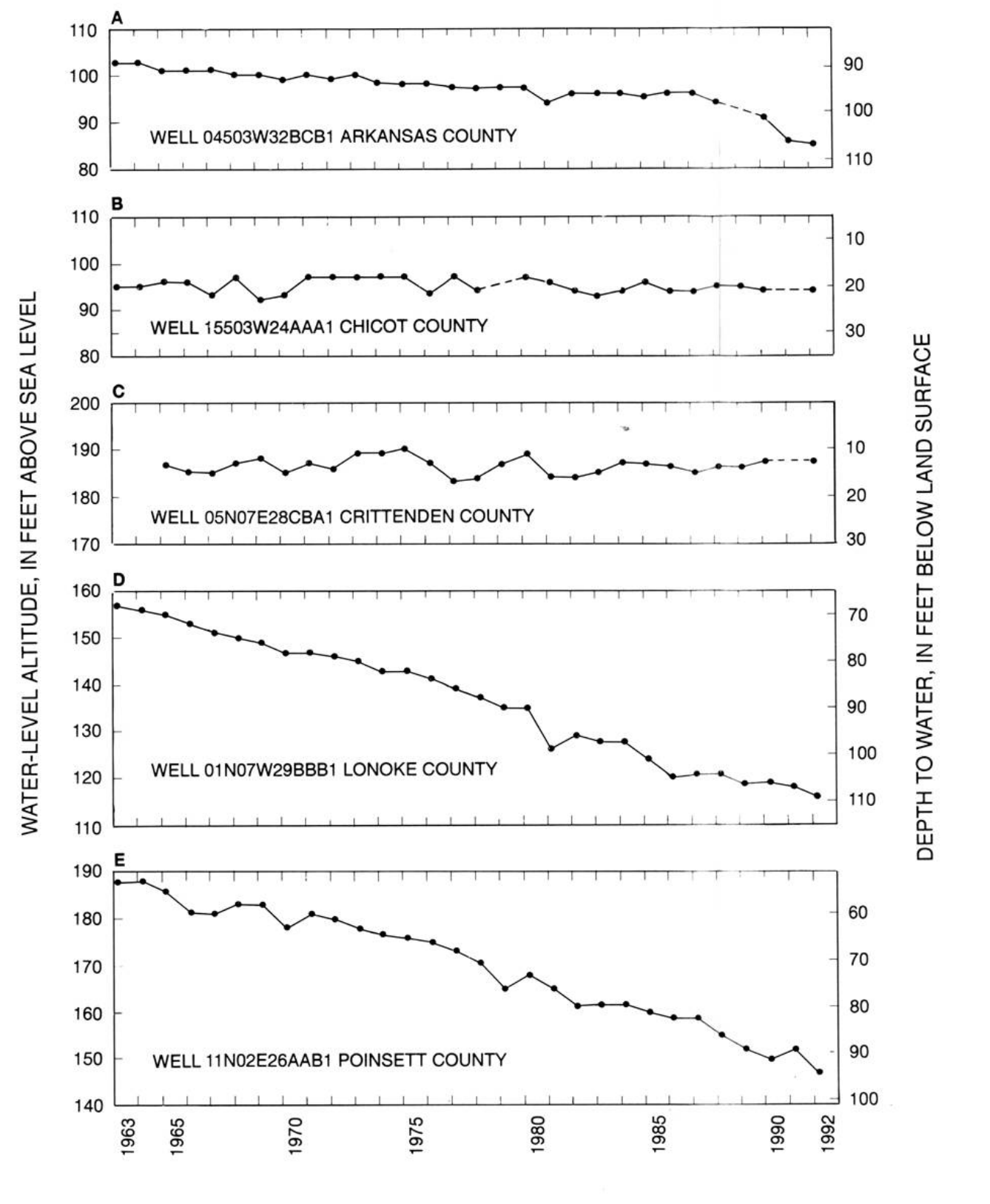
Base from U.S. Geological Survey
State base map, 1967

CHANGE IN THE POTENTIOMETRIC SURFACE OF THE ALLUVIAL AQUIFER, FROM SPRING 1987 TO SPRING 1992

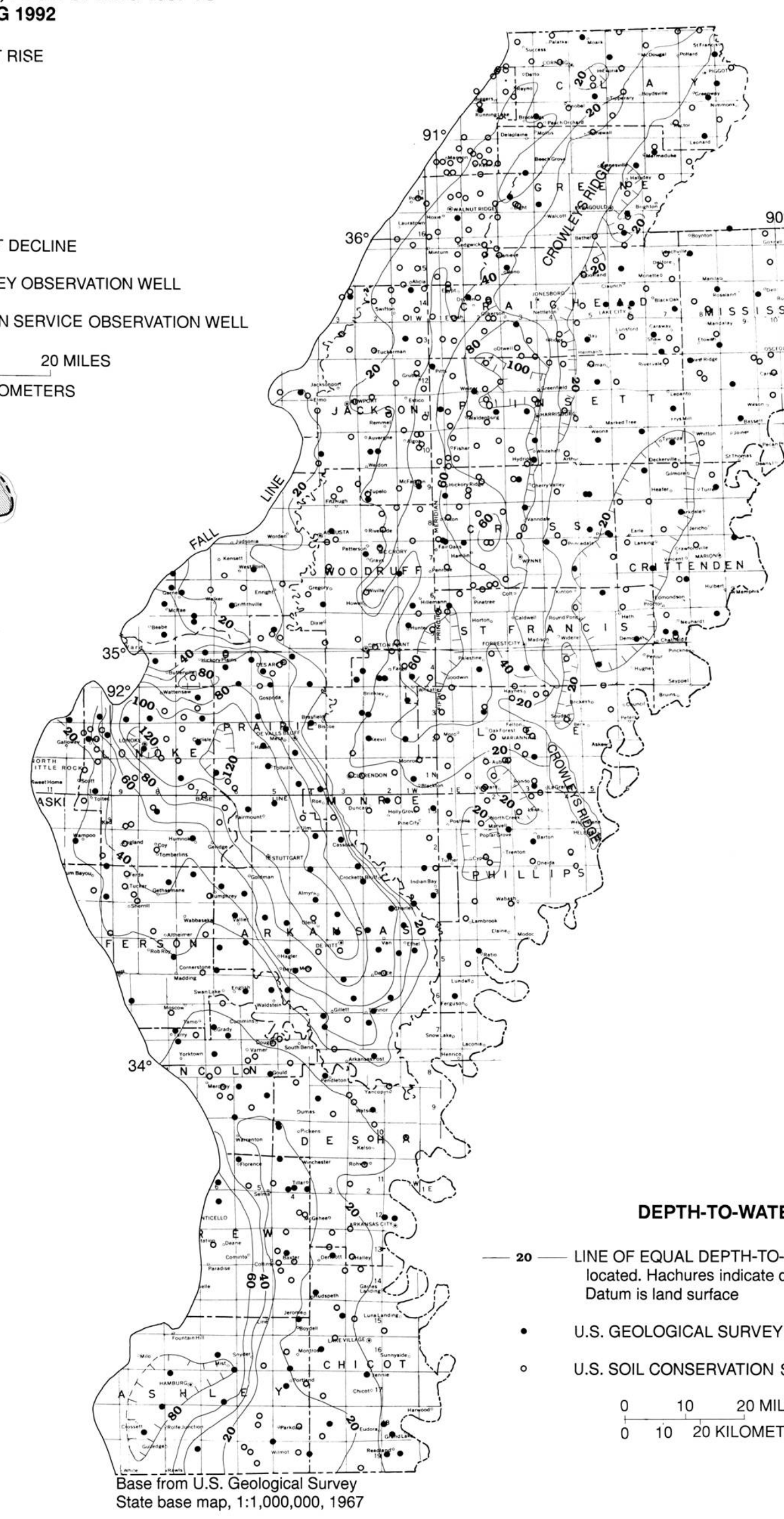
▦	GREATER THAN 10-FOOT RISE
▨	5- TO 10-FOOT RISE
☐	0- TO 5-FOOT RISE
▨	0- TO 5-FOOT DECLINE
▤	5- TO 10-FOOT DECLINE
☐	GREATER THAN 10-FOOT DECLINE
●	U.S. GEOLOGICAL SURVEY OBSERVATION WELL
○	U.S. SOIL CONSERVATION SERVICE OBSERVATION WELL

0 10 20 MILES
0 10 20 KILOMETERS

Base from U.S. Geological Survey
State base map, 1967



HYDROGRAPHS OF SPRING WATER-LEVEL MEASUREMENTS FOR WELLS COMPLETED IN THE ALLUVIAL AQUIFER



Base from U.S. Geological Survey
State base map, 1:1,000,000, 1967

DEPTH-TO-WATER MAP, SPRING 1992

—20—	LINE OF EQUAL DEPTH-TO-WATER--Dashed where approximately located. Hachures indicate depression. Contour interval 20 feet. Datum is land surface
●	U.S. GEOLOGICAL SURVEY OBSERVATION WELL
○	U.S. SOIL CONSERVATION SERVICE OBSERVATION WELL

0 10 20 MILES
0 10 20 KILOMETERS

Table 1.--Water-level measurements made by U.S. Geological Survey personnel for wells completed in the Mississippi River Valley alluvial aquifer, spring 1992
[--; data not collected for spring 1987]

Well number	County	Altitude of land surface (feet above sea level)	Date	Water level (feet below land surface)	Altitude of water level (feet)	Net change in water level 1987-92 (feet)
02S03W09DCD1	Arkansas	211	04-13	71.54	139	0.01
02S04W11DBB1	Arkansas	213	04-13	98.88	114	-3.51
03S02W18DCC1	Arkansas	203	04-13	77.78	125	-6.17
03S03W01DBB1	Arkansas	205	04-13	77.05	128	-7.41
03S04W03DCA16	Arkansas	205	04-14	98.97	106	- .95
03S06W29BAB1	Arkansas	196	04-16	41.58	154	-4.26
03S06W35ADD1	Arkansas	190	04-16	53.69	136	-6.32
04S01W04ACD2	Arkansas	155	04-13	12.74	142	-6.58
04S01W30AAA1	Arkansas	188	04-13	50.93	137	.39
04S02W11AAA1	Arkansas	195	04-13	62.64	132	-2.11
04S02W29CCC1	Arkansas	191	04-13	78.12	113	2.37
04S03W17ADD1	Arkansas	200	04-13	102.78	97	-4.53
04S03W32BCB1	Arkansas	192	04-14	107.30	85	-11.15
04S04W02ABB1	Arkansas	200	04-14	104.36	96	.11
04S05W16CDC1	Arkansas	201	04-15	69.21	132	1.54
04S05W24DAA1	Arkansas	198	04-15	90.78	107	.43
04S06W15DBB1	Arkansas	190	04-15	26.89	163	1.26
05S01W16BAB1	Arkansas	183	04-13	34.25	149	11.96
05S01W18BCC1	Arkansas	187	04-13	53.38	134	1.61
05S02W16ABD1	Arkansas	190	04-15	73.68	116	- .95
05S04W07CCC1	Arkansas	194	04-14	75.78	118	1.19
05S04W32BBA1	Arkansas	191	04-14	65.14	126	1.84
05S06W02DDD1	Arkansas	183	04-15	17.97	165	.56
05S06W07DDC1	Arkansas	180	04-14	10.48	170	.79
06S02W23DCD1	Arkansas	188	04-14	59.39	129	- .78
06S03W10BBA1	Arkansas	184	04-15	80.57	103	- .89
06S03W27AAA1	Arkansas	183	04-14	62.89	120	- .02
06S04W18CBB1	Arkansas	190	04-14	39.00	151	-2.30
07S02W04BBB1	Arkansas	176	04-15	37.64	138	10.13
07S02W17BBA1	Arkansas	184	04-15	46.85	137	2.11
07S03W18CCD1	Arkansas	186	04-15	39.73	146	2.57
07S04W01DDD1	Arkansas	186	04-15	39.22	147	12.20
08S02W08ACA1	Arkansas	179	04-15	38.92	140	-3.38
08S03WT2299	Arkansas	178	04-15	20.10	158	- .11
15S04W23DBD1	Ashley	128	04-15	27.49	101	-2.73
16S06W27BAB1	Ashley	182	04-15	77.15	105	.53
17S04W03ABB1	Ashley	124	04-15	19.97	104	1.14
17S04W21ABA1	Ashley	117	04-15	13.86	103	2.24
17S06W01ADD1	Ashley	182	04-15	79.83	102	.89
17S06W35CAC1	Ashley	179	04-15	70.93	108	.23
17S07W05CDD1	Ashley	185	04-15	85.40	100	9.12
18S08W01AAB1	Ashley	181	04-15	83.26	98	4.91
18S08W28DDD2	Ashley	163	04-15	86.75	77	.38
19S04W06BAB2	Ashley	110	04-15	12.68	97	4.06
19S06W07BCC1	Ashley	135	04-15	30.02	105	.95
13S03W35BAC1	Chicot	134	04-15	23.62	110	-5.57
14S03W32DCB1	Chicot	134	04-16	28.89	105	-1.12
15S03W24AAA1	Chicot	115	04-15	20.73	94	- .01
16S03W16DCB1	Chicot	121	04-16	30.56	90	-5.75
17S02W10AAA1	Chicot	114	04-16	20.88	93	- .52
18S01W19DAB1	Chicot	110	04-16	14.13	96	-2.51
18S01W28CCC1	Chicot	111	04-16	13.54	97	-3.02
18S03W22ABA2	Chicot	103	04-16	9.08	94	- .58
19S01W15BBC1	Chicot	114	04-16	16.81	97	-1.76
19S01W17BCC1	Chicot	106	04-16	18.87	87	-6.64
19S03W18BBA1	Chicot	102	04-16	17.64	84	.68
18N08E03DAB1	Clay	262	04-22	5.81	256	1.37
19N03E24AAA1	Clay	278	04-22	16.17	262	--
19N08E02ABB1	Clay	269	04-22	4.55	264	1.97
20N05E34DBA1	Clay	285	04-22	18.32	267	-1.42
20N08E24DDA1	Clay	276	04-22	7.59	268	1.76
21N05E17ABB1	Clay	300	04-22	16.79	283	.39
21N06E31BBA1	Clay	289	04-22	7.22	282	- .31
21N08E36ABB1	Clay	283	04-22	1.33	282	1.86
13N02E35DAC1	Craighead	252	05-14	94.68	157	--
13N03E09BAA1	Craighead	267	05- 5	86.10	181	-4.38
13N04E12ABB1	Craighead	231	05- 5	19.36	212	- .58
13N05E21BDD1	Craighead	226	05- 4	12.40	214	-3.95
13N07E20BBA1	Craighead	223	05- 5	4.09	219	- .47
14N02E18BDD1	Craighead	242	05- 4	40.79	201	-5.71
14N05E25ABB1	Craighead	238	05- 5	18.44	220	-1.92
14N06E20CCD1	Craighead	226	05- 5	5.52	220	- .61
14N06E27AAB1	Craighead	226	05- 5	2.82	223	.18
14N07E26DAB1	Craighead	227	05- 5	5.73	221	.04
15N03E19ADA1	Craighead	262	05- 4	34.28	228	-2.43
15N06E20DDD1	Craighead	234	05- 5	6.72	227	- .12
05N07E28CBA1	Crittenden	201	04-20	14.04	187	2.01
05N07E34BAB1	Crittenden	203	04-20	13.58	189	1.16
05N08E11CCD2	Crittenden	211	04-20	15.85	195	- .79
06N07E13BAA1	Crittenden	205	04-20	12.73	192	1.11
07N07E31CCC1	Crittenden	207	04-20	21.57	185	- .44
07N09E05CDD1	Crittenden	214	04-20	9.34	205	1.06
08N07E14DAA2	Crittenden	215	04-20	20.88	194	.30
09N06E11DAD1	Crittenden	217	04-20	27.41	190	.01
09N08E26DBB1	Crittenden	222	04-20	10.66	211	.36
06N04E01BBB1	Cross	205	04-23	31.74	173	.05
07N01E05CDA1	Cross	217	04-23	58.67	158	-3.81
07N01E11AAA1	Cross	217	04-23	61.56	155	-4.48
07N03E05ADA1	Cross	254	04-23	98.77	155	-2.98
07N04E07ABC1	Cross	222	04-23	44.00	178	.54
07N05E01BCB1	Cross	212	04-23	34.18	178	-1.49
08N03E09DAD1	Cross	258	04-23	100.19	158	-3.20
08N05E32DDD1	Cross	204	04-23	26.72	177	- .76
09N01E33BBA1	Cross	225	04-23	64.80	160	-4.25
09N03E17DDC1	Cross	248	04-23	92.53	155	-5.06
09N05E32BDB1	Cross	210	04-23	26.58	183	-1.18
08S03W33ABD1	Desha	165	05- 8	6.08	159	-3.13
09S02W26DDC1	Desha	149	05- 8	16.76	133	-2.75
09S03W17DCB1	Desha	155	05- 9	24.01	131	-2.21
09S04W06BBC1	Desha	162	05- 9	24.79	137	-6.13
10S04W08BDD1	Desha	164	05- 8	21.25	143	.70
11S03W31BBA1	Desha	148	04-17	18.85	129	- .46
12S01W31AAB1	Desha	135	04-16	14.15	121	1.57
12S01W33BAA1	Desha	135	04-16	14.23	121	.72
11S04W08DBA1	Drew	160	04-14	17.35	143	2.43
11S04W35CCD1	Drew	154	04-17	18.04	136	1.24
11S05W08CCC1	Drew	185	04-14	34.70	150	-1.57
11S06W34DAC2	Drew	209	04-14	63.18	146	.36
12S04W03ABB1	Drew	155	04-17	16.78	138	.85
12S06W15ADC2	Drew	199	04-17	64.27	135	-8.01
13S04W33ABA1	Drew	140	04-16	14.89	125	.20
16N06E03CCC1	Greene	258	04-21	46.03	212	-1.93
16N06E28ABB1	Greene	251	04-21	21.47	230	-2.64
17N03E02BDB1	Greene	266	04-21	19.42	247	-1.90
17N04E30CDC1	Greene	265	04-21	25.54	239	-4.49
18N06E26CDD1	Greene	272	04-22	15.14	257	.11
18N07E20BBA1	Greene	257	04-22	4.95	252	1.88
12N04W34CBB1	Independence	231	05-15	22.74	208	-5.98
14N03W14DAA2	Independence	230	05-15	5.46	225	--
09N01W22ADD1	Jackson	215	05-15	49.75	165	-6.88
09N02W32CBB1	Jackson	220	05-15	23.06	197	.58
10N02W27BBB1	Jackson	224	05-15	20.44	204	- .38
10N02W29ABB1	Jackson	227	05-15	18.58	208	--
10N03W30ABB1	Jackson	222	05-13	23.78	198	-3.86
13N01W20AAA1	Jackson	242	05-14	29.98	212	-4.84
14N01W09AAA1	Jackson	251	05-14	30.87	220	-4.31
03S07W16AAA1	Jefferson	190	04-16	35.83	154	-2.26
03S08W24BBC1	Jefferson	202	04-16	43.58	158	-6.76
03S09W06DDA1	Jefferson	225	04- 8	35.19	190	-1.68
03S09W31DDA1	Jefferson	218	04- 8	23.20	195	-1.91

Well number	County	Altitude of land surface (feet above sea level)	Date	Water level (feet below land surface)	Altitude of water level (feet)	Net change in water level 1987-92 (feet)
05S06W31CAA1	Jefferson	189	04-14	12.38	177	1.15
05S07W19BCC1	Jefferson	199	04-14	18.77	180	.96
06S05W15BCA1	Jefferson	177	04-14	13.12	164	2.00
06S06W23AAD1	Jefferson	189	04-14	15.41	174	-5.04
07S08W06BAA1	Jefferson	202	04-23	11.98	190	- .38
16N01E11DAC1	Lawrence	262	05- 6	37.03	225	-6.53
01N03E02BBC1	Lee	236	04-22	40.81	196	2.35
01N03E35BBA1	Lee	202	04-22	5.74	196	2.11
02N01E23BAA2	Lee	202	04-22	42.30	160	-1.35
02N02E21ABC1	Lee	200	04-22	26.95	173	1.54
02N03E14CCC3	Lee	232	04-22	56.03	176	- .52
03N02E29DAD1	Lee	205	04-22	32.72	172	- .80
03N04E34CDD1	Lee	195	04-22	20.98	174	.07
07S06W28CBB1	Lincoln	180	04-17	27.45	153	.50
07S07W29DDD1	Lincoln	187	04-14	16.55	170	- .28
08S06W02ACB1	Lincoln	181	04-14	28.99	152	- .45
08S06W21BBC1	Lincoln	180	04-14	29.77	150	- .97
08S07W09BBD1	Lincoln	190	04-14	22.04	168	.51
09S05W08CCB1	Lincoln	171	04-14	24.72	146	.31
09S05W13CDB1	Lincoln	174	04-14	28.34	146	.83
10S05W06DCC1	Lincoln	175	04-14	21.12	154	--
01N07W29BBB1	Lonoke	225	04- 8	108.79	116	-5.06
01S08W22CBB1	Lonoke	212	05- 7	62.28	150	-5.58
01S10W01ACB1	Lonoke	236	05- 6	38.42	198	-3.95
02N07W02BBA1	Lonoke	233	04- 9	103.85	129	-3.24
02N07W22DDD1	Lonoke	223	05- 6	111.60	111	-7.13
02N08W04BBB1	Lonoke	243	04- 9	102.59	140	-4.96
02N08W30CAB1	Lonoke	245	04-20	121.70	123	-9.66
02N09W02BDB1	Lonoke	251	05- 6	113.06	138	--
02N09W17CCB1	Lonoke	253	05- 7	78.22	175	-3.90
02N10W23BCA1	Lonoke	242	05- 7	37.81	204	-2.63
02S07W10CCB1	Lonoke	201	04- 8	49.86	151	-4.72
03N07W15DBC2	Lonoke	227	04- 9	70.76	156	-3.06
03N09W31CBC2	Lonoke	257	04- 9	56.84	200	9.67
04N08W15BCB2	Lonoke	225	04- 9	24.70	200	- .80
11N09E34BBB1	Mississippi	235	04-20	10.98	224	-1.17
12N08E08BCB1	Mississippi	225	04-20	7.03	218	-1.68
12N09E32DAA1	Mississippi	226	04-20	11.56	214	.63
13N09E30CCD1	Mississippi	230	04-20	9.23	221	-1.19
14N08E12DAB1	Mississippi	235	04-21	5.08	230	.11
14N10E18ABC1	Mississippi	236	04-21	11.77	224	- .18
14N11E03BCB1	Mississippi	247	04-21	4.89	242	.09
14N12E05DCB1	Mississippi	250	04-21	11.24	239	-1.45
15N08E08DBC2	Mississippi	236	04-21	9.07	227	-2.27
16N09E21BBB1	Mississippi	244	04-21	7.31	237	- .43
16N11E23AAD1	Mississippi	255	04-21	13.34	242	-2.53
01N01W21CDC1	Monroe	181	04-22	25.05	156	-1.30
01N04W33BBB2	Monroe	218	04-22	89.70	128	- .68
01S01W13CDD1	Monroe	178	04-22	7.90	170	4.42
01S02W11BCC1	Monroe	180	04-22	14.44	166	- .88
01S04W01BAB1	Monroe	210	04-22	71.22	139	.60
02N02W20BCC1	Monroe	188	04-22	33.29	155	--
03N01W20ABA1	Monroe	189	04-24	35.97	153	-1.47
03N02W31ADC1	Monroe	190	04-24	32.47	158	- .31
03N03W36AAA1	Monroe	176	04-24	16.16	160	- .66
03S01W03DAB1	Monroe	166	04-22	9.32	157	2.54
03S01W36BBD1	Monroe	163	04-22	15.68	147	- .39
04N02W27CDD3	Monroe	200	04-21	39.80	160	- .43
04N02W28DDD3	Monroe	192	04-21	28.14	164	- .39
04N02W30BBB1	Monroe	185	04-21	13.78	171	1.06
04N03W36BAC1	Monroe	180	04-21	10.32	170	.90
02S01E28CCB1	Phillips	174	04-22	13.02	161	- .53
02S02E01ACD1	Phillips	186	04-22	13.79	172	-1.66
02S03E15ACD1	Phillips	174	04-22	11.99	162	- .70
05S02E18BDA1	Phillips	156	04-22	17.55	138	-1.26
06S01E28AAA1	Phillips	151	04-22	15.92	135	-2.12
10N03E14DAA1	Poinsett	270	05-15	121.25	149	-7.11
10N03E35CDD1	Poinsett	275	05- 5	111.36	164	-4.82
10N05E15BDD1	Poinsett	207	05- 4	12.27	195	-2.18
10N06E11AAA1	Poinsett	212	05- 5	12.38	200	-1.58
10N07E22AAC1	Poinsett	215	05- 5	22.39	193	-1.17
11N01E17DDD1	Poinsett	230	05- 5	63.90	166	--
11N02E05BDA1	Poinsett	245	05- 5	88.63	156	-6.51
11N02E26AAB1	Poinsett	241	05- 5	94.28	147	-11.99
11N03E22DDD1	Poinsett	245	05-14	90.11	155	-5.94
11N07E22ADD1	Poinsett	218	05- 5	17.94	200	2.15
12N01E07CDA1	Poinsett	236	05- 4	44.41	192	-7.79
12N05E34ABA1	Poinsett	215	05- 4	5.98	209	1.29
12N07E04BAA1	Poinsett	223	05- 5	6.89	216	2.59
01N05W16AAA1	Prairie	218	04-10	113.64	104	-10.81
01N06W18CDD1	Prairie	223	04-10	120.60	102	-15.31
01S05W14BBC1	Prairie	211	04-10	111.33	100	-8.25
01S06W13DCD1	Prairie	224	04-10	119.75	104	-12.71
02N04W02BCB1	Prairie	188	04-10	19.38	169	.43
02N04W32CCB1	Prairie	221	04-10	77.41	144	- .21
02N05W05BBB1	Prairie	221	04- 9	80.52	140	-1.62
02N05W13AAB1	Prairie	223	04- 8	76.32	147	-7.89
02N05W29DDB2	Prairie	228	04-10	109.18	119	-1.78
03N04W03AAC1	Prairie	187	04- 9	25.92	161	-3.84
03N05W03DBB1	Prairie	207	04- 9	60.58	146	-7.24
03N06W01BCB1	Prairie	216	04- 9	79.68	136	-9.14
04N04W07ADC1	Prairie	195	04- 9	22.56	172	1.15
04N05W07CDC1	Prairie	212	04-19	69.82	142	-5.98
04N05W21DDD1	Prairie	205	04- 9	55.53	149	-1.24
04N06W21BCC1	Prairie	220	04- 6	77.56	142	-11.73
04N07W01CCC1	Prairie	212	04- 9	56.11	156	-6.31
05N05W14DCD1	Prairie	205	04- 9	33.17	172	-1.85
02N10W05BCC1	Pulaski	239	05-22	20.73	218	- .67
02S10W16CCA1	Pulaski	231	05-22	21.39	209	-3.67
18N01E34AAC1	Randolph	266	04-21	13.48	253	- .37
19N02E09DCA1	Randolph	267	04-21	3.77	263	5.92
04N01W28CDD1	St. Francis	208	04-21	63.74	144	-6.36
04N02E03DDD3	St. Francis	210	04-24	35.18	175	-1.35
04N03E21DAD1	St. Francis	236	04-23	49.46	187	1.43
04N05E22BBB1	St. Francis	200	04-23	26.96	173	.23
05N06E34CAB1	St. Francis	200	04-23	22.06	178	.75
06N01E33ACA2	St. Francis	211	04-23	52.86	158	-3.86
06N02E15BDD1	St. Francis	215	04-23	48.48	166	-4.02
06N02E24AAA1	St. Francis	232	04-23	57.70	174	1.40
06N05E22ACC1	St. Francis	200	04-23	31.54	168	-3.46
05N07W09AAA1	White	205	05-20	16.64	188	.26
05N07W10CCC1	White	203	05-20	12.99	190	- .44
05N08W23DCB1	White	211	05-20	29.97	181	-17.23
06N06W34AAB1	White	213	05-21	53.60	159	--
06N07W17DCC1	White	217	05-20	20.54	196	-2.78
06N08W13ABA1	White	228	05-20	11.95	216	1.69
06N08W26DDB1	White	230	05-20	23.06	207	-6.25
07N05W32BAB1	White	214	05-21	25.56	188	2.25
07N07W31CBB1	White	233	05-21	6.97	226	-2.55
05N01W16BCC1	Woodruff	211	04-21	56.61	154	-4.78
06N01W06BAB1	Woodruff	202	04-21	21.93	180	.58
06N01W33ADB2	Woodruff	216	04-21	56.44	160	-3.40
06N03W31BCB1	Woodruff	185	04-21	2.66	182	- .14
07N02W17CBD1	Woodruff	197	04- 9	7.66	189	.21
08N03W31AAD1	Woodruff	212	04-21	17.03	195	1.85

WATER-LEVEL MAPS OF THE MISSISSIPPI RIVER VALLEY ALLUVIAL AQUIFER IN EASTERN ARKANSAS, SPRING 1992

By
W. Westerfield and David T. Poynter
1993