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

Prepared in cooperation with the
**LOUISIANA STATE UNIVERSITY AGRICULTURAL CENTER**
**COOPERATIVE EXTENSION SERVICE AND THE**
**LOUISIANA RICE RESEARCH BOARD**

**WATER-RESOURCES INVESTIGATIONS REPORT 02-4088**
**Potentiometric Surface--SHEET 1 OF 2**
Lovelace, J.K., Fontenot, J.W., and Frederick, C.P., 2002, Louisiana Gound-Water Map No. 14: Potentiometric Surface, January 2001, and Water-Level Changes, June 2000 to January 2001, of the Chicot Aquifer System in Southwestern Louisiana

## INTRODUCTION

The Chicot aquifer system is the principal source of fresh ground water in southwestern Louisiana. Figure 1 shows the extent of freshwater in the aquifer system. In 2000, approximately 800 Mgal/d of water were withdrawn from wells in the aquifer system. About 540 Mgal/d were used for rice irrigation (B.P. Sargent, U.S. Geological Survey, written commun., 2001), primarily in Acadia, Jefferson Davis, southern Evangeline, northern Vermilion, and eastern Calcasieu Parishes. Water withdrawals from the aquifer system have lowered the water levels, creating an elongated cone of depression in the potentiometric surface over much of the region (Zack, 1971, p. 7-9 and pl. 2).

Seasonal pumping for rice irrigation, which typically occurs from February through June, causes water-level declines in the Chicot aquifer system in the aforementioned parishes and adjacent areas. During July through January, water levels generally recover after pumping during the rice-growing season. Nyman (1984, p. 8) stated, "Annual water-level fluctuations range from 2 to 3 ft in essentially unpumped areas in parts of Beauregard and Allen Parishes and from 20 to 40 ft near pumping centers for rice irrigation in Jefferson Davis and Acadia Parishes."

Data from a survey of farmers conducted during May 2000, indicated a widespread increase in per-acre application of ground water from the Chicot aquifer system for rice irrigation during the 2000 growing season (B.P. Sargent, U.S. Geological Survey, written commun., 2000). The increased ground-water use presumably was due to the below normal rainfall. Estimates of ground water used for rice irrigation increased from 420 Mgal/d in 1995 (Lovelace and Johnson, 1996, p. 15) to 540 Mgal/d in 2000 (B.P. Sargent, U.S. Geological Survey, written commun., 2001). Zack (1971) indicated that the amount of ground water withdrawn in southwestern Louisiana in any particular year is inversely proportional to the total rainfall during the rice-growing season.

Additional knowledge about ground-water flow and effects of increased withdrawals on water levels in the Chicot aquifer system are needed to assess ground-water-development potential and to protect the resource. To meet this need, the U.S. Geological Survey (USGS), in cooperation with the Louisiana State University Agricultural Center Cooperative Extensive Service and the Louisiana Rice Research Board, established a study to monitor water-level changes in wells completed within the Chicot aquifer system and to evaluate changes in the potentiometric surface (water levels). Results of the study are to be reported periodically; this is the second such report.

This report presents maps and data that describe the potentiometric surface, January 2001, and water-level changes, June 2000 to January 2001, in the massive, upper, and "200-foot" sands of the Chicot aquifer system. Hydrographs of water levels in selected wells completed in the aquifer system are presented. The potentiometric-surface map can be used for determination of ground-water-flow direction, hydraulic gradients, and effects of withdrawals on water levels in the system. Water-level data are on file at the USGS office in Baton Rouge, La.

### Description of Study Area

The study area, located in southwestern Louisiana, extends across about 9,000 mi$^2$ and includes all or parts of Acadia, Allen, Beauregard, Calcasieu, Cameron, Evangeline, Iberia, Jefferson Davis, Lafayette, Rapides, St. Landry, St. Martin, St. Mary, Vermilion, and Vernon Parishes (fig. 1). The climate generally is warm and temperate with high humidity and frequent rain. The average annual temperature is about 20$^0$C and the average annual rainfall is 55 in. (National Oceanic and Atmospheric Administration, 1995, p. 7, 9). Much of the area is rural, and rice cultivation is the primary agricultural activity. In 1999, 460,000 acres of rice were planted in southwestern Louisiana (Louisiana Cooperative Extension Service, 2000).

### Acknowledgments

The authors gratefully acknowledge the assistance and cooperation of numerous public water suppliers and private well owners who allowed water levels to be measured in their wells. The authors thank Eddie Eskew, Keith Fontenot, Howard Cormier, Ron Levy, Jerry Whatley, and Gary Wicke, County Agents of the Louisiana Cooperative Extension Service, who initiated contacts with many of the land owners and farmers whose wells were used in this study. Additionally, the authors thank Z. "Bo" Bolourchi, Chief, Water Resources Programs, Louisiana Department of Transportation and Development, for providing well information that was used to select wells for this study, and Frank R. Glass, Jr. and Dan J. Tomaszewski of the U.S. Geological Survey, for collecting water-level data used for this study.

## HYDROGEOLOGY

The Chicot aquifer system underlies most of southwestern Louisiana and parts of the Texas coastal lowlands. The aquifer system is composed of deposits of silt, sand, and gravel interlayered with deposits of clay and sandy clay that dip towards the south and southeast. The sand deposits grade southward from coarse sand and gravel to finer sediments and become increasingly subdivided by clay units. The Chicot aquifer system also thickens eastward, towards the Atchafalaya River area, where it is hydraulically connected to alluvial deposits of the Atchafalaya and Mississippi Rivers (Nyman, 1984, p. 4).

The Chicot aquifer system has been divided into three subregions in Louisiana based on the occurrence of major clay units.

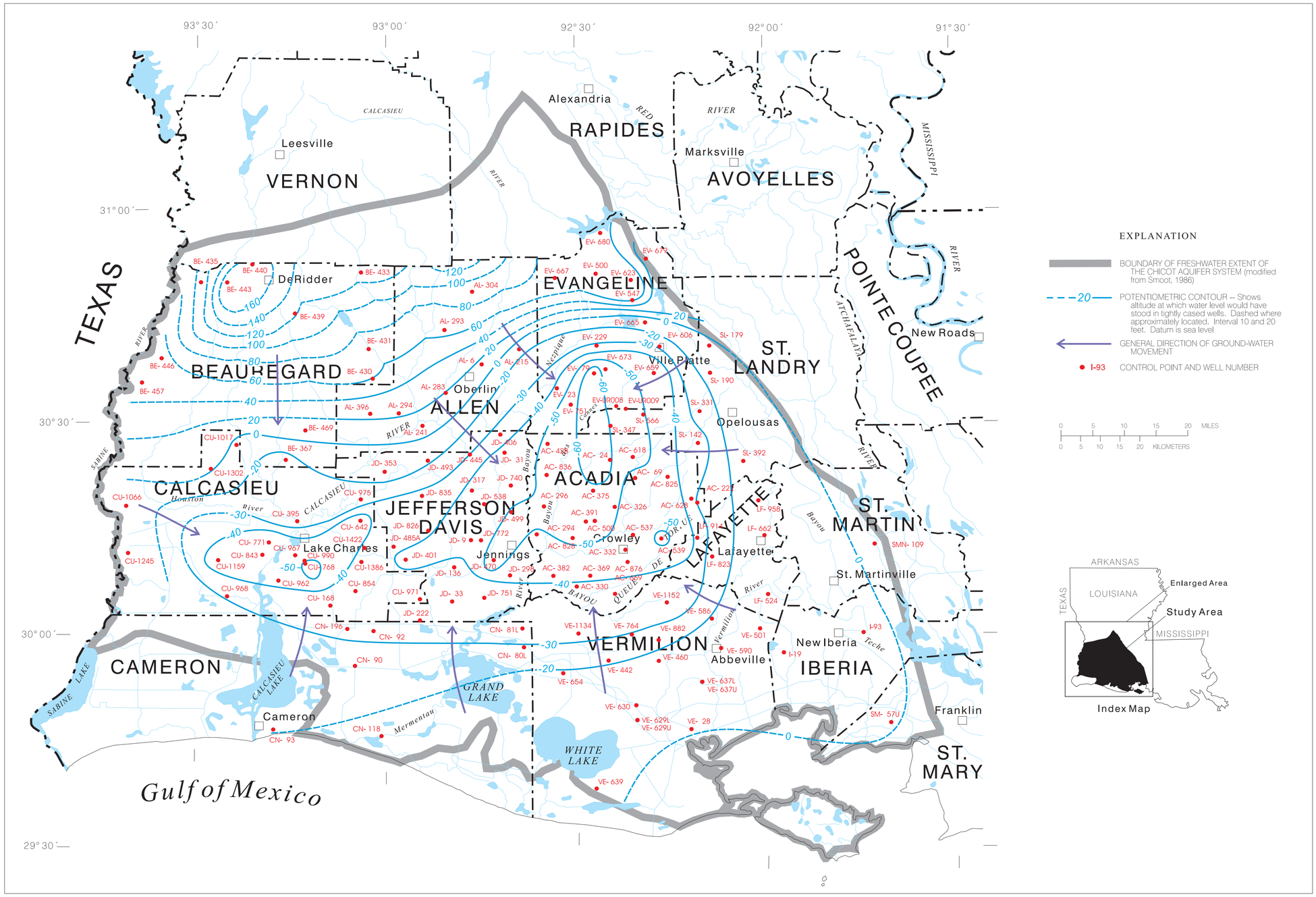




**Figure 1.** Potentiometric surface of the massive, upper, and "200-foot" sands of the Chicot aquifer system in southwestern Louisiana, January 2001.

In the northern part of the study area, the aquifer system is composed mainly of a single massive sand. The approximate southern boundary of the massive sand extends along the Beauregard-Calcasieu Parish line and across northern Jefferson Davis, Acadia, and Lafayette Parishes. South of the massive sand, from eastern parts of Calcasieu and Cameron Parishes to the Atchafalaya River, the aquifer includes upper and lower sand units (Whitman and Kilburn, 1963, p. 10). In central and western Calcasieu and Cameron Parishes, the Chicot aquifer system includes the "200-," "500-," and "700-foot" sands, named after their depths of occurrence in the Lake Charles area (Jones, 1950, p. 2). The "200-foot" sand is stratigraphically equivalent to, and continuous with, the upper sand. Figure 2 shows a partial hydrogeologic column of aquifers in southwestern Louisiana.

Recharge to the Chicot aquifer system occurs in areas where the aquifer deposits crop out in southern Rapides and Vernon Parishes and in northern Allen, Beauregard, and Evangeline Parishes. In these areas, precipitation infiltrates sandy soil and moves slowly downdip towards areas of concentrated pumping in Acadia, Calcasieu, and Jefferson Davis Parishes and parts of adjacent parishes. Additional recharge is supplied from vertical leakage through overlying and underlying clay confining units, and from alluvial deposits associated with the Atchafalaya River, which are laterally adjacent to the upper sand unit (Nyman, 1990, p. 14).

## POTENTIOMETRIC SURFACE

A potentiometric-surface map (fig. 1) was constructed using water-level data (table 1, sheet 2) from wells completed in the massive, upper, and "200-foot" sands of the Chicot aquifer system. Water levels were measured during January 2001; water levels typically rise to their yearly high during January or February (fig. 3). Water levels were measured using steel or electrical tapes marked with 0.01-ft gradations; wells in which water levels were measured were not being pumped at the time the measurements were made.

The highest water level, about 168 ft above sea level, was measured in the outcrop area of the Chicot aquifer system in northwestern Beauregard Parish. Water levels more than 40 ft below sea level were recorded in parts of Acadia, Calcasieu, Evangeline, and Jefferson Davis Parishes. The lowest water levels, more than 60 ft below sea level, extended over an area of about 100 mi$^2$ in southern Evangeline and northern Acadia Parishes.

Ground water moves through the aquifer system from areas of higher hydraulic head to areas of lower hydraulic head, and the direction of flow is perpendicular to potentiometric contours. During January 2001, flow in the aquifer generally was towards rice-growing areas of Acadia, Jefferson Davis, southern Evangeline, and eastern Calcasieu Parishes. Flow also was towards population and industrial centers in central Calcasieu Parish. In the northern part of the study area, flow in the massive sand generally was towards the south and southeast along the dip of sediments. In the southern part of the study area, flow in the upper sand and the "200-foot" sand was to the north from coastal areas. Along the eastern extent of the aquifer system, flow generally trended westward.

| System | Series | Aquifer system | Aquifer | |
|---|---|---|---|---|
| | | | Lake Charles area | Rice-growing area |
| Quaternary | Pleistocene | Chicot aquifer system | "200-foot" sand of Lake Charles area | Chicot aquifer, upper sand unit |
| | | | "500-foot" sand of Lake Charles area<br>"700-foot" sand of Lake Charles area | Chicot aquifer, lower sand unit |

**Figure 2.** Partial hydrogeologic column of aquifers in southwestern Louisiana (modified from Lovelace and Lovelace, 1995, p. 10).

### CONVERSION FACTORS AND VERTICAL DATUM

| Multiply | By | To obtain |
|---|---|---|
| acre | 4,047 | square meter |
| inch (in.) | 25.4 | millimeter |
| foot (ft) | 0.3048 | meter |
| mile (mi) | 1.609 | kilometer |
| square mile (mi$^2$) | 2.590 | square kilometer |
| million gallons per day (Mgal/d) | 3,785 | cubic meter per day |

**Temperature** in degrees Celsius ($^o$C) can be converted to degrees Fahrenheit ($^o$F) as follows: $^o$F = 1.8($^o$C) + 32.

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

# Louisiana Ground-Water Map No. 14:

# Potentiometric Surface of the Chicot Aquifer System in Southwestern Louisiana, January 2001

*By*

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2002

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WATER-RESOURCES INVESTIGATIONS REPORT 02-4088
Water-Level Changes--SHEET 2 OF 2
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## WATER-LEVEL CHANGES

Changes in water levels in the massive, upper, and "200-foot" sands of the Chicot aquifer system from June 2000 to January 2001 are shown in figure 4. Water levels in these sands are typically near their annual low in June and near their annual high in January. The water-level change map was prepared by calculating the difference between water levels at individual wells measured during June 2000 and January 2001, and by comparing the potentiometric-surface maps created from these measurements. Then, lines of equal water-level change were plotted. The water-level changes shown in figure 4 represent the approximate amount of water-level recovery that occurred between the annual low and the annual high water levels in the aquifer prior to the start of seasonal pumping for rice irrigation in 2001.

Water levels generally rose throughout most of the Chicot aquifer system in the study area. Water levels rose more than 5 ft in rice-growing areas of Acadia, Jefferson Davis, southern Evangeline, and eastern Calcasieu Parishes. The largest water-level rise, 30 ft, occurred at well Cu-854 in southeastern Calcasieu Parish. Slight water-level declines, generally less than 1 ft, occurred along the northern and eastern extents of the Chicot aquifer system. These areas correspond to outcrop areas for the Chicot aquifer system, where the aquifer system receives direct recharge from infiltration, and to areas where the aquifer system receives lateral recharge from alluvial deposits associated with the Atchafalaya River. The slight water-level decline in these areas may have been in response to drought conditions that prevailed in southwestern Louisiana during much of 2000. The largest decline, -8 ft, occurred at well JD-835 in northwestern Jefferson Davis Parish and probably was caused by pumping from one or more nearby wells.

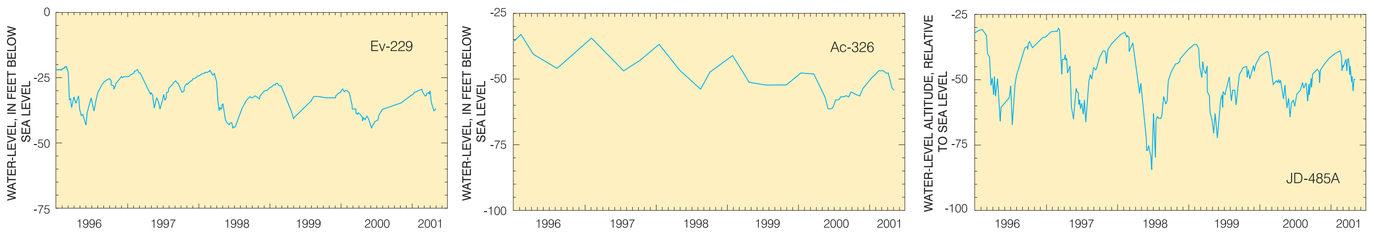


**Figure 3.** Water levels in the Chicot aquifer system for wells Ev-229 (Evangeline Parish), Ac-326 (Acadia Parish), and JD-485A (Jefferson Davis Parish), 1996-2001.

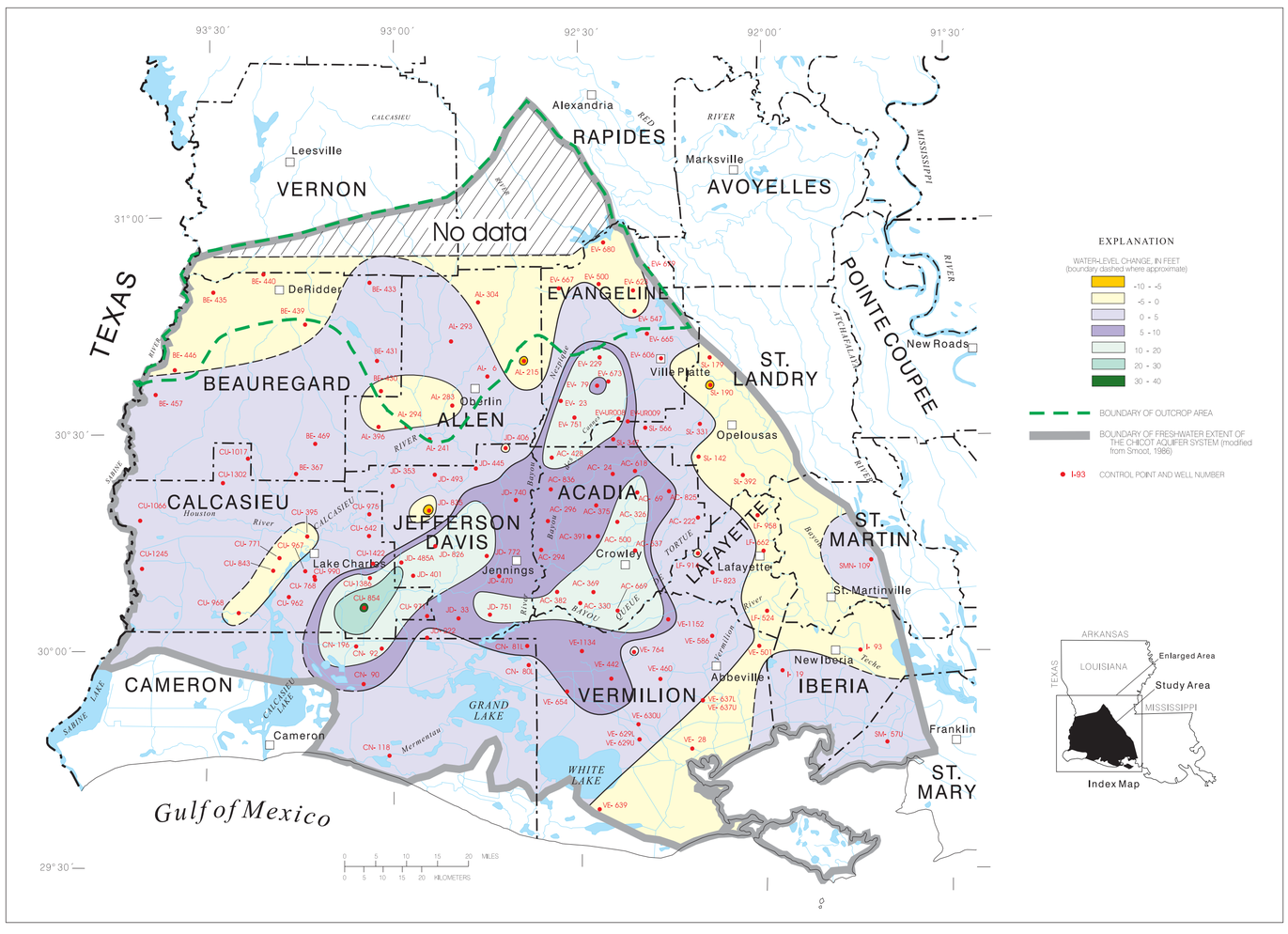


**Figure 4.** Water-level changes in the massive, upper, and "200-foot" sands of the Chicot aquifer system in southwestern Louisiana, June 2000 to January 2001.

**Table 1.** *Water-level data used to construct the potentiometric-surface map, January 2001, and water-level change map, June 2000 to January 2001, of the massive, upper, and "200-foot" sands of the Chicot aquifer system*
**[Aquifer code: 112CHCT, massive sand; 112CHCTU, upper sand; and 11202LC, "200-foot" sand. --, no data]**

| Well number | Aquifer code | Altitude of land surface (feet relative to sea level) | Depth of well (feet) | June 2000 water-level measurements: Date | Depth to water level (feet below land surface) | Altitude of water level (feet relative to sea level) | January 2001 water-level measurements: Date | Depth to water level (feet below land surface) | Altitude of water level (feet relative to sea level) | Water-level changes, June 2000 to January 2001 |
|---|---|---|---|---|---|---|---|---|---|---|
| **Acadia Parish** | | | | | | | | | | |
| Ac- 24 | 112CHCT | 41.00 | 284.00 | 6-27 | 109.18 | -68.18 | 1-25 | 102.11 | -61.11 | 7.07 |
| Ac- 69 | 112CHCT | 43.00 | -- | 6-1 | 107.88 | -64.88 | 1-30 | 90.33 | -47.33 | 17.55 |
| Ac- 222 | 112CHCTU | 36.00 | -- | 6-14 | 72.48 | -36.48 | 1-30 | 65.74 | -29.74 | 6.74 |
| Ac- 294 | 112CHCTU | 25.00 | 260.00 | 6-14 | 78.63 | -53.63 | 1-25 | 73.45 | -48.45 | 5.18 |
| Ac- 296 | 112CHCTU | 31.00 | 250.00 | 6-7 | 89.38 | -58.38 | 1-25 | 82.71 | -51.71 | 6.67 |
| Ac- 326 | 112CHCTU | 25.80 | 202.00 | 6-6 | 89.98 | -64.18 | 1-30 | 77.11 | -51.31 | 12.87 |
| Ac- 330 | 112CHCTU | 12.00 | 280.00 | 6-14 | 63.72 | -51.72 | 1-31 | 51.50 | -39.50 | 12.22 |
| Ac- 332 | 112CHCTU | 20.00 | 294.00 | -- | -- | -- | 1-31 | 65.09 | -45.09 | -- |
| Ac- 369 | 112CHCTU | 15.00 | 280.00 | 6-8 | 73.07 | -58.07 | 1-26 | 59.63 | -44.63 | 13.44 |
| Ac- 375 | 112CHCTU | 36.00 | 315.00 | 6-27 | 102.07 | -66.07 | 1-25 | 94.39 | -58.39 | 7.68 |
| Ac- 382 | 112CHCTU | 11.00 | 292.00 | 6-8 | 65.74 | -54.74 | 1-26 | 54.09 | -43.09 | 11.65 |
| Ac- 391 | 112CHCTU | 21.00 | 256.00 | 6-6 | 82.11 | -61.11 | 1-25 | 73.48 | -52.48 | 8.63 |
| Ac- 428 | 112CHCT | 42.00 | 203.00 | 6-7 | 104.78 | -62.78 | 1-09 | 93.72 | -51.72 | 11.06 |
| Ac- 500 | 112CHCTU | 22.00 | 248.00 | 6-6 | 85.16 | -63.16 | 1-17 | 76.68 | -54.68 | 8.48 |
| Ac- 500 | 112CHCTU | 22.00 | 248.00 | 6-6 | 85.16 | -63.16 | 1-25 | 73.89 | -51.89 | 11.27 |
| Ac- 537 | 112CHCTU | 25.00 | 211.00 | 6-8 | 86.26 | -61.26 | 1-17 | 69.26 | -44.26 | 17.00 |
| Ac- 537 | 112CHCTU | 25.00 | 211.00 | 6-8 | 86.26 | -61.26 | 1-31 | 68.44 | -43.44 | 17.82 |
| Ac- 539 | 112CHCTU | 31.00 | 251.00 | -- | -- | -- | 1-30 | 82.69 | -51.69 | -- |
| Ac- 618 | 112CHCT | 40.00 | 249.00 | 6-7 | 106.70 | -66.70 | 1-25 | 97.03 | -57.03 | 9.67 |
| Ac- 628 | 112CHCTU | 35.00 | 250.00 | -- | -- | -- | 1-31 | 68.58 | -33.58 | -- |
| Ac- 669 | 112CHCTU | 15.00 | 176.00 | 6-20 | 68.40 | -53.40 | 1-26 | 52.31 | -37.31 | 16.09 |
| Ac- 825 | 112CHCT | 43.00 | 265.00 | 6-8 | 97.91 | -54.91 | 1-30 | 91.75 | -48.75 | 6.16 |
| Ac- 828 | 112CHCTU | 21.00 | 302.00 | -- | -- | -- | 1-30 | 72.97 | -51.97 | -- |
| Ac- 836 | 112CHCT | 37.00 | 275.00 | 6-7 | 97.75 | -60.75 | 1-31 | 89.44 | -52.44 | 8.31 |
| Ac- 876 | 112CHCTU | 21.00 | 298.00 | -- | -- | -- | 1-26 | 62.23 | -41.23 | -- |
| **Allen Parish** | | | | | | | | | | |
| Al- 6 | 112CHCT | 80.00 | -- | 6-28 | 67.21 | 12.79 | 1-25 | 66.07 | 13.93 | 1.14 |
| Al- 215 | 112CHCT | 70.00 | 207.00 | 6-28 | 78.79 | -8.79 | 1-25 | 84.08 | -14.08 | -5.29 |
| Al- 241 | 112CHCT | 42.97 | 62.00 | 6-19 | 34.65 | 8.32 | 1-24 | 32.90 | 10.07 | 1.75 |
| Al- 283 | 112CHCT | 62.00 | 93.00 | 6-20 | 40.84 | 21.16 | 1-24 | 41.95 | 20.05 | -1.11 |
| Al- 293 | 112CHCT | 100.00 | 84.00 | 6-22 | 32.92 | 67.08 | 1-25 | 32.50 | 67.50 | 0.42 |
| Al- 294 | 112CHCT | 48.00 | 142.00 | 6-19 | 26.27 | 21.73 | 1-24 | 26.32 | 21.68 | -0.05 |
| Al- 304 | 112CHCT | 114.00 | 104.00 | 6-23 | 20.21 | 93.79 | 1-25 | 20.36 | 93.64 | -0.15 |
| Al- 396 | 112CHCT | 57.00 | 315.00 | 6-23 | 32.86 | 24.14 | 1-25 | 33.44 | 23.56 | -0.58 |
| **Beauregard Parish** | | | | | | | | | | |
| Be- 367 | 112CHCT | 45.00 | 455.00 | 6-27 | 71.20 | -26.20 | 1-15 | 69.49 | -24.49 | 1.71 |
| Be- 430 | 112CHCT | 120.00 | 123.00 | 6-1 | 59.68 | 60.32 | 1-24 | 60.82 | 59.18 | -1.14 |
| Be- 431 | 112CHCT | 70.00 | 84.00 | 6-1 | 6.70 | 63.30 | 1-24 | 3.66 | 66.34 | 3.04 |
| Be- 433 | 112CHCT | 132.00 | 82.00 | 6-1 | 7.62 | 124.38 | 1-24 | 5.92 | 126.08 | 1.70 |
| Be- 435 | 112CHCT | 129.00 | 124.00 | 6-1 | 20.39 | 108.61 | 1-15 | 20.82 | 108.18 | -0.43 |
| Be- 439 | 112CHCT | 169.00 | 189.00 | 6-1 | 48.27 | 120.73 | 1-15 | 48.67 | 120.33 | -0.40 |
| Be- 440 | 112CHCT | 212.00 | 169.00 | 6-1 | 45.07 | 166.93 | 1-15 | 45.70 | 166.30 | -0.63 |
| Be- 443 | 112CHCT | 206.00 | 164.00 | -- | -- | -- | 1-31 | 37.98 | 168.02 | -- |
| Be- 446 | 112CHCT | 83.00 | 157.00 | 6-1 | 26.70 | 56.30 | 1-15 | 26.85 | 56.15 | -0.15 |
| Be- 457 | 112CHCT | 95.00 | 155.00 | 6-1 | 48.25 | 46.75 | 1-15 | 46.57 | 48.43 | 1.68 |
| Be- 469 | 112CHCT | 84.00 | 380.00 | 6-21 | 71.37 | 12.63 | 1-15 | 69.42 | 14.58 | 1.95 |
| **Calcasieu Parish** | | | | | | | | | | |
| Cu- 168 | 11202LC | 7.81 | 375.00 | -- | -- | -- | 1-31 | 45.46 | -37.65 | -- |
| Cu- 395 | 11202LC | 12.00 | 200.00 | 6-27 | 40.21 | -28.21 | 1-16 | 40.33 | -28.33 | -0.12 |
| Cu- 642 | 11202LC | 19.00 | 287.00 | 6-1 | 64.32 | -45.32 | 1-16 | 62.76 | -43.76 | 1.56 |
| Cu- 768 | 11202LC | 11.53 | 306.00 | 6-14 | 68.83 | -57.30 | 1-16 | 66.11 | -54.58 | 2.72 |
| Cu- 771 | 11202LC | 17.76 | 241.00 | 6-8 | 63.21 | -45.45 | 1-16 | 63.81 | -46.05 | -0.60 |
| Cu- 843 | 11202LC | 12.00 | 205.00 | 6-8 | 56.01 | -44.01 | 1-11 | 56.18 | -44.18 | -0.17 |
| Cu- 854 | 11202LC | 20.00 | 430.00 | 6-8 | 83.64 | -63.64 | 1-30 | 52.82 | -32.82 | 30.82 |
| Cu- 962 | 11202LC | 11.00 | 287.00 | 6-21 | 53.36 | -42.36 | 1-16 | 52.80 | -41.80 | 0.56 |
| Cu- 967 | 11202LC | 12.00 | 240.00 | 6-14 | 58.95 | -46.95 | 1-16 | 58.70 | -46.70 | 0.25 |
| Cu- 968 | 11202LC | 10.00 | 276.00 | 6-28 | 40.18 | -30.18 | 1-16 | 40.33 | -30.33 | -0.15 |
| Cu- 971 | 112CHCTU | 5.00 | 500.00 | 6-13 | 47.94 | -42.94 | 1-16 | 42.06 | -37.06 | 5.88 |
| Cu- 975 | 11202LC | 20.00 | 237.00 | 6-13 | 48.65 | -28.65 | 1-16 | 45.60 | -25.60 | 3.05 |
| Cu- 990 | 11202LC | 14.00 | 183.00 | 6-14 | 65.86 | -51.86 | 1-31 | 63.83 | -49.83 | 2.03 |
| Cu-1017 | 112CHCT | 72.50 | 351.00 | 6-27 | 75.40 | -2.90 | 2-01 | 75.05 | -2.55 | 0.35 |
| Cu-1066 | 11202LC | 25.00 | 255.00 | 6-28 | 34.81 | -9.81 | 1-15 | 33.03 | -8.03 | 1.78 |
| Cu-1159 | 11202LC | 13.00 | 280.00 | -- | -- | -- | 1-31 | 57.84 | -44.84 | -- |
| Cu-1245 | 11202LC | 11.00 | 136.00 | 6-28 | 16.43 | -5.43 | 1-15 | 16.04 | -5.04 | 0.39 |
| Cu-1302 | 11202LC | 45.00 | 180.00 | 6-27 | 43.56 | 1.44 | 2-01 | 43.48 | 1.52 | 0.08 |
| Cu-1386 | 11202LC | 24.00 | 325.00 | 6-9 | 78.75 | -54.75 | 1-30 | 62.35 | -38.35 | 16.40 |
| Cu-1422 | 11202LC | 22.00 | 262.00 | 6-9 | 63.06 | -41.06 | 1-30 | 60.07 | -38.07 | 2.99 |
| **Cameron Parish** | | | | | | | | | | |
| Cn- 80L | 112CHCTU | 4.73 | 481.00 | 6-20 | 39.00 | -34.27 | 1-11 | 34.41 | -29.68 | 4.59 |
| Cn- 81L | 112CHCTU | 4.45 | 478.00 | 6-20 | 41.84 | -37.39 | 1-11 | 36.42 | -31.97 | 5.42 |
| Cn- 90 | 11202LC | 3.19 | 396.00 | 6-20 | 37.48 | -34.29 | 1-30 | 31.32 | -28.13 | 6.16 |
| Cn- 92 | 11202LC | 5.50 | 443.00 | 6-8 | 49.41 | -43.91 | 1-30 | 37.62 | -32.12 | 11.79 |
| Cn- 93 | 112CHCTU | 3.76 | 360.00 | 6-28 | 36.77 | -33.01 | 1-30 | 23.93 | -20.17 | 12.84 |
| Cn- 118 | 112CHCTU | 5.00 | 638.00 | 6-28 | 24.02 | -19.02 | 1-30 | 23.72 | -18.72 | 0.30 |
| Cn- 196 | 11202LC | 10.00 | 420.00 | 6-8 | 59.31 | -49.31 | 1-31 | 42.67 | -32.67 | 16.64 |
| **Evangeline Parish** | | | | | | | | | | |
| Ev- 23 | 112CHCT | 51.06 | 360.00 | 6-1 | 104.19 | -53.13 | 1-09 | 92.92 | -41.86 | 11.27 |
| Ev- 79 | 112CHCT | 55.00 | 250.00 | 6-1 | 125.66 | -70.66 | 1-09 | 119.48 | -64.48 | 6.18 |
| Ev- 229 | 112CHCT | 65.66 | 231.00 | 6-1 | 109.56 | -43.90 | 1-08 | 96.42 | -30.76 | 13.14 |
| Ev- 500 | 112CHCT | 117.52 | 120.00 | 6-1 | 50.16 | 67.36 | 1-10 | 50.23 | 67.29 | -0.07 |
| Ev- 547 | 112CHCT | 113.38 | 80.00 | 6-1 | 52.60 | 60.78 | 1-10 | 53.67 | 59.71 | -1.07 |
| Ev- 606 | 112CHCT | 75.00 | 255.00 | 6-27 | 104.84 | -29.84 | 1-23 | 104.60 | -29.60 | 0.24 |
| Ev- 623 | 112CHCT | 137.20 | 96.00 | 6-1 | 68.86 | 68.34 | 1-10 | 72.10 | 65.10 | -3.24 |
| Ev- 659 | 112CHCT | 60.52 | 252.00 | -- | -- | -- | 1-26 | 104.65 | -44.13 | -- |
| Ev- 665 | 112CHCT | 59.29 | 100.00 | 6-1 | 71.80 | -12.51 | 1-10 | 67.34 | -8.05 | 4.46 |
| Ev- 667 | 112CHCT | 122.20 | 91.50 | 6-1 | 48.39 | 73.81 | 1-10 | 48.62 | 73.58 | -0.23 |
| Ev- 673 | 112CHCT | 60.00 | 247.00 | 6-1 | 128.32 | -68.32 | 1-10 | 117.72 | -57.72 | 10.60 |
| Ev- 679 | 112CHCT | 46.00 | 70.00 | 6-1 | 7.34 | 38.66 | 1-10 | 6.73 | 39.27 | 0.61 |
| Ev- 680 | 112CHCT | 120.00 | 89.00 | 6-1 | 56.97 | 63.03 | 1-10 | 57.58 | 62.42 | -0.61 |
| Ev- 751 | 112CHCT | 53.00 | 275.00 | 6-1 | 125.18 | -72.18 | 1-09 | 110.24 | -57.24 | 14.94 |
| Ev-UR008 | 112CHCT | 56.00 | -- | 6-1 | 124.22 | -68.22 | 1-09 | 110.74 | -54.74 | 13.48 |
| Ev-UR009 | 112CHCT | 58.00 | -- | 6-27 | 117.61 | -59.61 | 1-26 | 110.18 | -52.18 | 7.43 |
| **Iberia Parish** | | | | | | | | | | |
| I- 19 | 112CHCTU | 9.72 | 460.00 | 6-9 | 18.96 | -9.24 | 1-24 | 17.49 | -7.77 | 1.47 |
| I- 93 | 112CHCTU | 18.53 | 585.00 | 6-9 | 22.14 | -3.61 | 1-11 | 22.71 | -4.18 | -0.57 |
| **Jefferson Davis Parish** | | | | | | | | | | |
| JD- 9 | 112CHCTU | 24.10 | 318.00 | -- | -- | -- | 1-10 | 71.70 | -47.60 | -- |
| JD- 31 | 112CHCT | 50.00 | 250.00 | -- | -- | -- | 1-31 | 94.63 | -44.63 | -- |
| JD- 33 | 112CHCTU | 7.18 | 350.00 | 6-7 | 50.97 | -43.79 | 1-10 | 43.98 | -36.80 | 6.99 |
| JD- 136 | 112CHCTU | 20.00 | 274.00 | -- | -- | -- | 1-30 | 53.80 | -33.80 | -- |
| JD- 222 | 112CHCTU | 4.61 | 300.00 | 6-7 | 43.62 | -39.01 | 1-10 | 39.34 | -34.73 | 4.28 |
| JD- 298 | 112CHCTU | 15.00 | 297.00 | -- | -- | -- | 1-30 | 56.69 | -41.69 | -- |
| JD- 317 | 112CHCT | 42.27 | 289.00 | -- | -- | -- | 1-31 | 86.22 | -43.95 | -- |
| JD- 353 | 112CHCT | 25.00 | 300.00 | 6-28 | 41.79 | -16.79 | 1-10 | 41.06 | -16.06 | 0.73 |
| JD- 401 | 112CHCTU | 14.00 | 282.00 | 6-7 | 72.32 | -58.32 | 1-10 | 54.73 | -40.73 | 17.59 |
| JD- 406 | 112CHCT | 50.00 | 450.00 | 6-22 | 82.09 | -32.09 | 1-25 | 82.34 | -32.34 | -0.25 |
| JD- 445 | 112CHCT | 47.82 | 262.00 | 6-16 | 79.32 | -31.50 | 1-10 | 78.66 | -30.84 | 0.66 |
| JD- 470 | 112CHCTU | 10.00 | 325.00 | 6-7 | 68.17 | -58.17 | 1-10 | 62.51 | -52.51 | 5.66 |
| JD- 485A | 112CHCTU | 21.36 | 290.00 | 6-7 | 80.85 | -59.49 | 1-10 | 61.14 | -39.78 | 19.71 |
| JD- 493 | 112CHCT | 37.95 | 220.00 | 6-6 | 57.09 | -19.14 | 1-10 | 56.86 | -18.91 | 0.23 |
| JD- 499 | 112CHCTU | 30.00 | 250.00 | -- | -- | -- | 1-31 | 80.15 | -50.15 | -- |
| JD- 538 | 112CHCTU | 33.00 | 245.00 | -- | -- | -- | 1-31 | 81.22 | -48.22 | -- |
| JD- 740 | 112CHCT | 35.00 | 264.00 | 6-6 | 90.04 | -55.04 | 1-09 | 82.85 | -47.85 | 7.19 |
| JD- 751 | 112CHCTU | 10.00 | 193.00 | 6-7 | 56.56 | -46.56 | 1-10 | 45.04 | -35.04 | 11.52 |
| JD- 772 | 112CHCTU | 27.00 | 340.00 | 6-16 | 86.38 | -59.38 | 1-10 | 74.67 | -47.67 | 11.71 |
| JD- 826 | 112CHCTU | 26.00 | 225.00 | 6-28 | 76.27 | -50.27 | 1-27 | 65.60 | -39.60 | 10.67 |
| JD- 835 | 112CHCTU | 31.00 | 280.00 | 6-28 | 53.94 | -22.94 | 1-10 | 62.18 | -31.18 | -8.24 |
| **Lafayette Parish** | | | | | | | | | | |
| Lf- 524 | 112CHCTU | 25.00 | 174.00 | 6-9 | 27.25 | -2.25 | 1-24 | 31.17 | -6.17 | -3.92 |
| Lf- 662 | 112CHCTU | 40.37 | 152.00 | 6-8 | 51.09 | -10.72 | 1-24 | 51.98 | -11.61 | -0.89 |
| Lf- 823 | 112CHCTU | 30.00 | 363.00 | 6-9 | 59.02 | -29.02 | 1-24 | 57.18 | -27.18 | 1.84 |
| Lf- 914 | 112CHCTU | 30.00 | 250.00 | 6-8 | 68.11 | -38.11 | 1-24 | 69.58 | -39.58 | -1.47 |
| Lf- 958 | 112CHCTU | 50.00 | 115.00 | 6-8 | 54.72 | -4.72 | 1-24 | 55.58 | -5.58 | -0.86 |
| **St. Landry Parish** | | | | | | | | | | |
| SL- 37 | 112CHCT | 60.00 | 629.00 | -- | -- | -- | 1-23 | 97.29 | -37.29 | -- |
| SL- 142 | 112CHCT | 50.00 | 235.00 | 6-7 | 83.84 | -33.84 | 1-23 | 85.07 | -35.07 | -1.23 |
| SL- 179 | 112CHCT | 55.23 | 94.00 | 6-5 | 56.85 | -1.62 | 1-11 | 57.34 | -2.11 | -0.49 |
| SL- 190 | 112CHCT | 74.36 | 175.00 | 6-6 | 84.78 | -10.42 | 1-23 | 91.03 | -16.67 | -6.25 |
| SL- 331 | 112CHCT | 61.00 | 282.00 | 6-6 | 91.46 | -30.46 | 1-23 | 88.58 | -27.58 | 2.88 |
| SL- 347 | 112CHCT | 50.00 | 300.00 | 6-1 | 119.18 | -69.18 | 1-11 | 109.98 | -59.98 | 9.20 |
| SL- 392 | 112CHCT | 46.74 | 126.00 | 6-7 | 55.39 | -8.65 | 1-23 | 56.86 | -10.12 | -1.47 |
| SL- 459 | 112CHCT | 51.00 | 249.00 | 6-27 | 117.61 | -66.61 | 1-26 | 110.18 | -59.18 | 7.43 |
| SL- 566 | 112CHCT | 51.00 | 250.00 | 6-7 | 103.23 | -52.23 | 1-26 | 101.77 | -50.77 | 1.46 |
| **St. Martin Parish** | | | | | | | | | | |
| SMn- 109 | 112CHCTU | 11.34 | 375.00 | 6-22 | 9.74 | 1.60 | 1-11 | 9.47 | 1.87 | 0.27 |
| **St. Mary Parish** | | | | | | | | | | |
| SM- 57U | 112CHCTU | 8.72 | 638.00 | 6-28 | 11.02 | -2.30 | 1-11 | 9.12 | -0.40 | 1.90 |
| **Vermilion Parish** | | | | | | | | | | |
| Ve- 28 | 112CHCTU | 6.74 | 260.00 | 6-6 | 7.13 | -0.39 | 1-24 | 8.86 | -2.12 | -1.73 |
| Ve- 442 | 112CHCTU | 5.42 | 281.00 | 6-6 | 36.68 | -31.26 | 1-25 | 28.07 | -22.65 | 8.61 |
| Ve- 460 | 112CHCTU | 9.78 | 300.00 | 6-20 | 29.01 | -19.23 | 1-24 | 27.72 | -17.94 | 1.29 |
| Ve- 501 | 112CHCTU | 21.62 | 227.00 | 6-5 | 29.51 | -7.89 | 1-24 | 29.77 | -8.15 | -0.26 |
| Ve- 586 | 112CHCTU | 15.40 | 259.00 | 6-5 | 34.88 | -19.48 | 1-24 | 33.98 | -18.58 | 0.90 |
| Ve- 590 | 112CHCTU | 16.00 | 260.00 | -- | -- | -- | 1-25 | 24.65 | -8.65 | -- |
| Ve- 629L | 112CHCTU | 1.79 | 487.00 | 6-6 | 10.83 | -9.04 | 1-24 | 9.59 | -7.80 | 1.24 |
| Ve- 629U | 112CHCTU | 1.79 | 457.00 | 6-6 | 9.70 | -7.91 | 1-24 | 9.42 | -7.63 | 0.28 |
| Ve- 630U | 112CHCTU | 4.75 | 528.00 | 6-6 | 15.66 | -10.91 | 1-24 | 14.29 | -9.54 | 1.37 |
| Ve- 637L | 112CHCTU | 4.06 | 243.00 | 6-7 | 14.69 | -10.63 | 1-24 | 14.51 | -10.45 | 0.18 |
| Ve- 637U | 112CHCTU | 4.06 | 198.00 | 6-7 | 13.56 | -9.50 | 1-24 | 14.40 | -10.34 | -0.84 |
| Ve- 639 | 112CHCTU | 5.84 | 608.00 | 6-6 | 11.30 | -5.46 | 1-24 | 11.40 | -5.56 | -0.10 |
| Ve- 654 | 112CHCTU | 9.60 | 267.00 | 6-20 | 33.82 | -24.22 | 1-25 | 28.51 | -18.91 | 5.31 |
| Ve- 764 | 112CHCTU | 15.00 | 250.00 | 6-20 | 43.84 | -28.84 | 1-25 | 44.61 | -29.61 | -0.77 |
| Ve- 882 | 112CHCTU | 10.00 | 279.00 | -- | -- | -- | 1-25 | 31.45 | -21.45 | -- |
| Ve-1134 | 112CHCTU | 5.00 | 190.00 | 6-20 | 45.55 | -40.55 | 1-25 | 37.93 | -32.93 | 7.62 |
| Ve-1152 | 112CHCTU | 10.00 | 235.00 | 6-20 | 56.57 | -46.57 | 1-25 | 47.12 | -37.12 | 9.45 |

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# Louisiana Ground-Water Map No. 14:

# Water-Level Changes in the Chicot Aquifer System in Southwestern Louisiana, June 2000 to January 2001

*By*

John K. Lovelace, Jared W. Fontenot, and C. Paul Frederick

2002