

Figure 4. Water-level changes in the Gonzales-New Orleans aquifer, 1987-93.

WATER-LEVEL CHANGES

The general trends of water levels within the Gonzales-New Orleans aquifer in southeastern Louisiana are shown in figures 4 and 5. Water-level changes within the aquifer between 1987 and 1993 are shown in figure 4. The water-level change map was prepared by comparing the potentiometric-surface maps, and calculating the difference between water levels measured in 1987 and 1993. Lines of equal water-level change then were plotted. Since 1987, water levels in the Gonzales-New Orleans aquifer have recovered throughout most of the study area. The area of greatest recovery is in eastern Jefferson and western Orleans Parishes, where water levels rose more than 15 feet in well Or-182 (fig. 4). This area of recovery probably was due to a decline in pumping from the downtown and lakefront areas in New Orleans. The area where water levels have recovered the least is along the Mississippi River in southern St. John the Baptist Parish, where no change was indicated, and along the Intracoastal Waterway in central and eastern Orleans Parish, where industrial withdrawals have remained near previous levels, allowing water levels to recover 1 to 2 feet (J.K. Lovelace, U.S. Geological Survey, oral commun., 1994).

Water-level changes in the Gonzales-New Orleans aquifer within the study area are primarily due to changes in withdrawals from the aquifer. The relation between water-level changes in well Or-42, and withdrawals from the Gonzales-New Orleans aquifer in Orleans and Jefferson Parishes is shown in figure 5. In well Or-42, the lowest water levels occurred during the late 1960's and early 1970's. In 1970, ground-water withdrawals from the Gonzales-New Orleans aquifer in Jefferson and Orleans Parishes totaled more than 50 million gallons per day. Ground-water withdrawals decreased to about 33 million gallons per day during the period from 1970 to 1990, and water levels in well Or-42 recovered slightly more than 2 feet per year to the current (1994) level of about 65 to 70 feet below sea level (fig. 5).

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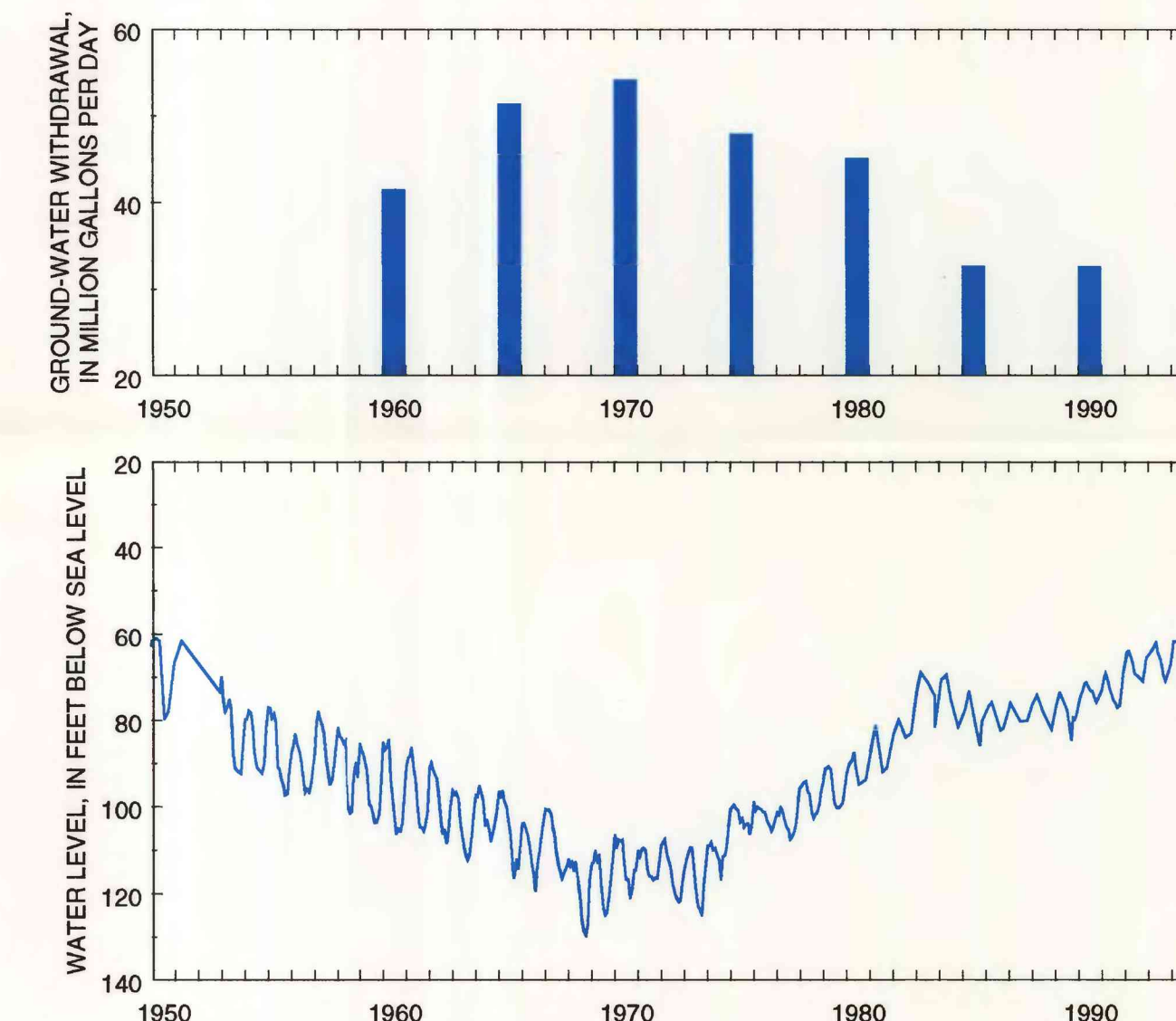


Figure 5. Water level in well Or-42 (Orleans Parish) and withdrawals from the Gonzales-New Orleans aquifer for Orleans and Jefferson Parishes.

**LOUISIANA GROUND-WATER MAP NO. 11:
WATER-LEVEL CHANGES, 1987-93, OF THE GONZALES-NEW ORLEANS AQUIFER
IN SOUTHEASTERN LOUISIANA**

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