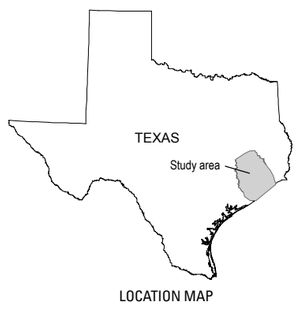
U.S. DEPARTMENT OF THE INTERIOR
U.S. GEOLOGICAL SURVEY

In cooperation with the
HARRIS-GALVESTON SUBSIDENCE DISTRICT,
CITY OF HOUSTON,
FORT BEND SUBSIDENCE DISTRICT, AND
LONE STAR GROUNDWATER CONSERVATION DISTRICT

SCIENTIFIC INVESTIGATIONS MAP 3081
Approximate water-level changes, Evangeline aquifer, 1977–2009—SHEET 10 OF 16

Kasmarek, M.C., Houston, N.A., and Ramage, J.K., 2009, Water-level altitudes 2009 and water-level changes in the Chicot, Evangeline, and Jasper aquifers and compaction 1973–2008 in the Chicot and Evangeline aquifers, Houston-Galveston region, Texas



EXPLANATION

- 20 — **Line of equal water-level rise**—Interval 20 feet
- -20 — **Line of equal water-level decline**—Intervals 20 and 40 feet
- 0 — **Line of zero water-level change**
- **Boundary of study area**
- **Updip limit of Evangeline aquifer (Baker, 1979)**

Note: This change map was created by contouring the set of mapped point values computed as the difference in water-level altitude at each point (well) for which a water-level measurement was made in 2009 and the water-level altitude at that point on a gridded surface of the 1977 water-level-altitude map (Gabrysch, 1979, sheet 2).

Gridded-surface values for 1977 (rather than actual measured values) were used to compute differences (mapped point values) because many of the wells measured in 1977 have been destroyed or were not measured in 2009. Thus using the gridded surface yielded more point values than would have been available using only the subset of wells measured in both 2009 and 1977.

For the subset of wells measured in both 2009 and 1977, the mapped point values used were the differences in water-level-altitude values between 2009 and 1977 rather than the differences between 2009 water-level-altitude values and 1977 gridded-surface values—although the1977 water-level-altitude and gridded-surface values are equal for the majority of points and very close for most others.

Figure 10. Map showing approximate water-level changes in the Evangeline aquifer, Houston-Galveston region, Texas, 1977–2009.

Base from U.S. Geological Survey
Digital data, 1:100,000
Universal Transverse Mercator projection
Zone 15

Water-Level Altitudes 2009 and Water-Level Changes in the Chicot, Evangeline, and Jasper Aquifers and Compaction 1973–2008 in the Chicot and Evangeline Aquifers, Houston-Galveston Region, Texas

By
Mark C. Kasmarek, Natalie A. Houston, and Jason K. Ramage

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Information regarding water resources in Texas is available at http://tx.usgs.gov/