

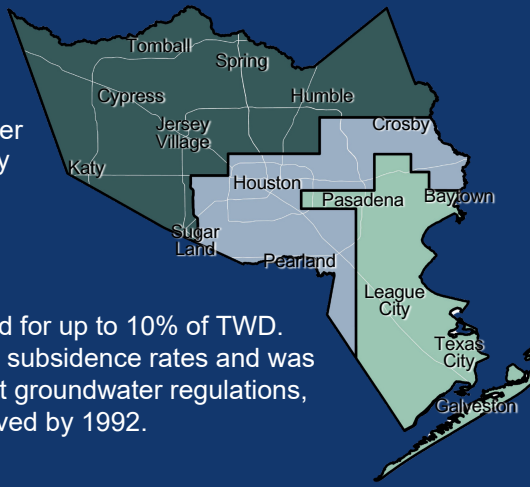
2025 ANNUAL GROUNDWATER REPORT



GROUNDWATER REGULATION

Historically, the greater Houston area has relied on groundwater sourced from the Gulf Coast Aquifer System as its primary water supply. However, when large amounts of groundwater are removed from this aquifer system, compaction occurs, which is observed at the surface as subsidence, or the gradual sinking of land. It is an irreversible process and causes damage to infrastructure and increased flood risk.

The Harris-Galveston Subsidence District (HGSD) was created by the Texas Legislature in 1975 to provide groundwater regulations to prevent further subsidence in Harris and Galveston counties. HGSD regulates groundwater withdrawal through a science-based Regulatory Plan that uses a well-permitting process to designate groundwater allowances to meet their Total Water Demand (TWD) and conversion timelines for transitioning to Alternative Water Supplies (AWS), determined by Regulatory Areas:



REGULATORY AREA 1

- Groundwater may be used for up to 10% of TWD.
- This area had the highest subsidence rates and was the first area to implement groundwater regulations, with full conversion achieved by 1992.

REGULATORY AREA 2

- Groundwater may be used for up to 20% of TWD unless operating under a District-approved Groundwater Reduction Plan (GRP).
- This area has mostly converted to AWS since 2002.

REGULATORY AREA 3

- Groundwater may be used for up to 20% of TWD unless operating under a District-approved GRP.
- This area is in the process of developing additional AWS to meet the District's conversion deadline by 2035.

ABOUT THE REPORT

The District publishes an Annual Groundwater Report (AGR) that presents data collected during the previous calendar year and assesses the effects of groundwater withdrawal on subsidence. The AGR includes:

- **Climate Conditions** to understand how factors such as precipitation and drought can affect trends in water demand.
- **Water Use** reported by HGSD permittees with information on their water demand, water supplies, and use type.
- **Aquifer Data** collected by the U.S. Geological Survey that demonstrate how groundwater withdrawals impact water level and compaction.
- **Measured Subsidence** to map where subsidence is occurring in the region.

The results of the AGR provide the most current information on subsidence and ultimately tell the story of our region's subsidence mitigation efforts. In areas that have reduced their reliance on groundwater, little to no subsidence occurs, whereas in areas that still heavily rely on groundwater, subsidence continues.

This document serves as a high-level summary of the AGR for the 2025 calendar year.



Scan the QR code to learn more about groundwater regulations in Harris and Galveston counties.



Scan the QR code for Annual Groundwater Reports and to access the full report.

DISTRICT WATER USE IN 2025

Our region has relied on groundwater, primarily from the Chicot-Evangeline Aquifer within the Gulf Coast Aquifer System. When large volumes of groundwater are pumped from this aquifer, subsidence occurs, which is why HGSD regulates groundwater and established conversion requirements to reduce reliance on groundwater beginning in 1976. Since then, water providers have developed alternative water supplies, like treated surface water sourced from three river basins and reclaimed water, including metered water from treatment plants, captured stormwater runoff, and reused water from industrial processes.

Water Use		MGD Used in 2025
Groundwater	Regulatory Area 1	10.85
	Regulatory Area 2	28
	Regulatory Area 3	194
Groundwater Use Total		232.85
Alternative Water Supplies	Brazos River Basin	78.04
	San Jacinto River Basin	195.44
	Trinity River Basin	588.54
	Reclaimed Water	7.68
Alternative Water Supplies Use Total		869.7
Total Water Demand		1,102.55

The District's total water demand (TWD) in 2025 was 1,102.55 million gallons per day (MGD), marking a 47% increase in TWD and a 49% decrease in groundwater usage since regulations began in 1976, when groundwater use was reported at 456.33 MGD and alternative water supplies were 292.27 MGD.

ALTERNATIVE WATER

To meet conversion requirements and reduce reliance on groundwater, regional water authorities and local water providers are working to implement projects that develop and distribute alternative water supplies.



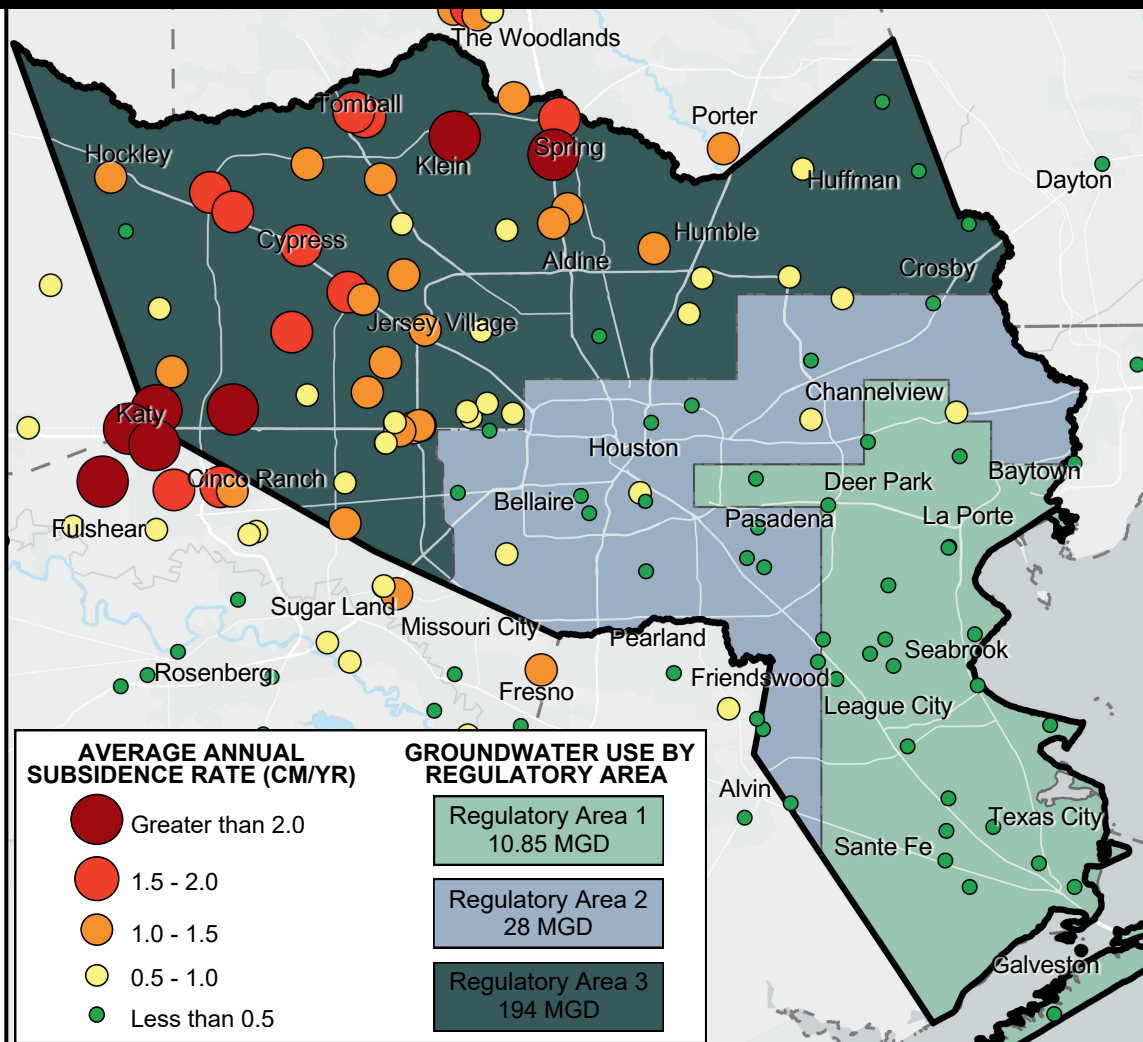
Scan the QR code to view a map of alternative water supply projects.

CURRENT SUBSIDENCE RATES

The District collects data from Global Positioning System (GPS) stations to track changes in the land's surface and monitor subsidence. This map shows the average annual subsidence rate from GPS stations over a five-year period from 2021 to 2025. It also shows each regulatory area's groundwater usage in millions of gallons per day (MGD) for 2025.

The effects of groundwater withdrawal on land subsidence are made clear on the map. In areas with minimal groundwater use, such as Regulatory Area 1, subsidence has stabilized. While in areas that still rely heavily on groundwater, such as Regulatory Area 3, higher subsidence rates are occurring.

Additional conversion requirements are in place for Regulatory Area 3 to further reduce reliance on groundwater by 2035.



Scan the QR code to view an interactive map where you can click on each GPS station to learn its current subsidence rate and more.