

# Types of Data

- Water Level (HALFF, GWDB)
- Water Quality Analyses (HALFF?, GWDB)
- Drillers/Geophysical Logs (SDR, BRACS, GWDB, HALFF?)
- **Permitting and Production records- location, permits, associated pumping sites (?)**
- Amount sold vs Amount produced (Water Use)
- Crop by crop estimates (Historical Water Use Estimates)
- Water use (surface water) for irrigation (Ag Conservation?)
- Others?

# Shared Platform for GCD Data

- GCD HALFF Databases
- TWDB Groundwater Database
- TWDB/TDLR Submitted Drillers Report Database
- TWDB BRACS Database
- TWDB Water Use Survey Database
- TWDB Water Planning Data
- TWDB Ag Conservation Data

# Some Limitations

- GWDB does not contain all wells in the state - limited to 99 sites per Grid because of State Well Number format
- GWDB doesn't currently contain tables for production wells and permits
- SDR serves as a repository of all new wells drilled but lacks fields (well numbers) to link to other data sets, and does not contain tables for production wells and permits
- Need inventory of Data Sets – What data is needed, is it currently being stored/managed anywhere?

# Opportunities

- Link GWDB with Water Use/Water Planning
- Link GWDB with BRACS
- Link GWDB with Ag Conservation
- Publish data linked above in Web accessible reports
- Link GWDB with HALFF Databases –share data between databases
- Create Stand-alone tables in GWDB for new data sets
- Modifications to GWDB to house additional data sets, and allow for better data exchange (Web Services)

# TWDB Database Report Application (SARA)

<https://www3.twdb.texas.gov/apps/sara/reports/list>

Favorite	Report Id	Report Name	Report Description	Keywords	Contact
<input type="checkbox"/>	2	Statewide Historical Water Use Estimates, 1974-1999	Annual water use summary for Texas by water use category and water source (groundwater and surface water). 1974-1999. Multiple years can be selected and viewed at once. This is a static historical report.		waterusesurvey@twdb.texas.gov
<input type="checkbox"/>	3	Historical Water Use Estimates by Water Planning Region, 2000-2014	Annual water use summary for the 16 water planning regions by water use category and water source (groundwater and surface water). 2000-2014. This report does not include reuse volumes.		waterusesurvey@twdb.texas.gov
<input type="checkbox"/>	4	Historical Water Use Estimates by Water Planning Region, 2015 and Later (Includes Reuse)	Annual water use summary for the 16 water planning regions by water use category and water source (groundwater, surface water and reuse). 2015 and later.		waterusesurvey@twdb.texas.gov
<input type="checkbox"/>	5	Historical Water Use Estimates by County, 1974-1999	Annual water use summary for counties by water use category and water source (groundwater and surface water). 1974 - 1999. Multiple years can be selected and viewed at once. This is a static historical report.		waterusesurvey@twdb.texas.gov
<input type="checkbox"/>	6	Historical Water Use Estimates by County, 2000-2014	Annual water use summary for counties by water use category and water source (groundwater and surface water). 2000-2014. This report does not include reuse volumes.		waterusesurvey@twdb.texas.gov
<input type="checkbox"/>	7	Historical Water Use Estimates by County, 2015 and Later (Includes Reuse)	Annual water use summary for counties by water use category and water source (groundwater, surface water and reuse). 2015 and later.		waterusesurvey@twdb.texas.gov
<input type="checkbox"/>	8	Historical Water Use Estimates by River Basin, 1974-1999	Annual water use summary for river basins by water use category and water source (groundwater and surface water). 1974 - 1999. Multiple years can be selected and viewed at once. This is a static historical report.		waterusesurvey@twdb.texas.gov
<input type="checkbox"/>	9	Historical Water Use Estimates by River Basin, 2000-2014	Annual water use summary for river basins by water use category and water (groundwater and surface water). 2000-2014. This report does not include reuse volumes.		waterusesurvey@twdb.texas.gov
<input type="checkbox"/>	10	Historical Water Use Estimates by River Basin, 2015 and Later (Includes Reuse)	Annual water use summary for river basins by water use category and water source (groundwater, surface water and reuse). 2015 and later.		waterusesurvey@twdb.texas.gov
<input type="checkbox"/>	11	Historical Water Use Estimates by Water User Group (WUG) Utility, 2016 and Later	Annual water use summary for all regional water planning water user group (WUG) utilities including population, intake, sales and gallons per capita daily (GPCD). 2016 and later.		waterusesurvey@twdb.texas.gov
<input type="checkbox"/>	12	Detailed Gallons Per Capita Daily (GPCD) Report by Water User Group (WUG) Utility, 2016 and Later	Annual water use summary for individual water planning water user group (WUG) utilities with detailed gallons per capita daily (GPCD) report including population, intake, and buyer and seller reported water volumes. 2016 and later.		waterusesurvey@twdb.texas.gov
<input type="checkbox"/>	13	Historical Water Use Estimates by Industry Type, 2000 and Later	Annual water use summary for industry types based on 3-digit North American Industry Classification System (NAICS) code, including intake, sales and number of surveyed facilities for each industry type. 2000 and later.		waterusesurvey@twdb.texas.gov
<input type="checkbox"/>	14	Historical Water Reuse Intake Report, 2000 and Later	Water reuse intake report for all surveyed public water systems and industrial facilities, including both direct and indirect reuse intake volumes, seller (if applicable) and reuse type (landscape, agriculture, industrial and other). 2000 and later.		waterusesurvey@twdb.texas.gov
<input type="checkbox"/>	15	Historical Water Reuse Intake Report by Water Planning Region, 2000 and Later	Annual water reuse intake report for surveyed public water systems and industrial facilities by water planning region, including both direct and indirect reuse intake volumes, seller (if applicable) and reuse type (landscape, agriculture, industrial and other). 2000 and later.		waterusesurvey@twdb.texas.gov
<input type="checkbox"/>	16	Historical Municipal Water Intake Report for Public Water Systems by Water Planning Region	Water use intake report for all surveyed public water systems by water planning region, including geographic information, monthly intake volumes and water source (groundwater, surface water or reuse).		waterusesurvey@twdb.texas.gov
<input type="checkbox"/>	17	Historical Industrial Water Intake Report for Industrial Facilities by Water Planning Region	Water use intake report for all industrial facilities by water planning region, including geographic information, monthly intake volumes and water source (groundwater, surface water or reuse).		waterusesurvey@twdb.texas.gov
<input type="checkbox"/>	18	Historical Categorical Connections and Volumes by Public Water System, 2016 and Later	Annual retail water use volumes and connections by use category (single-family, multi-family, commercial, institutional, industrial, agricultural, reuse and unmetered) for all surveyed public water systems. 2016 and later.		waterusesurvey@twdb.texas.gov

Explore available reports, run reports and export data.

Can also select Favorites – but requires signing up for free account

# Web Services

- This is a REST-friendly service, which means it is URL accessible and can be run from a browser
- The service can return information about one or more sites in one request

<https://waterservices.usgs.gov/rest/GW-Levels-Test-Tool.html>

The screenshot shows the USGS Water Services website. The USGS logo is at the top left. Below it is a navigation bar with links for Home, REST Services, SOAP Services, Documentation, Examples, Links, FAQ, and Contact us. The main content area is divided into three columns. The left column, titled 'Water Service Shortcuts', lists various services with a red box and arrow pointing to 'Groundwater Levels Service'. The middle column, titled 'USGS Water Services', contains a description of the service, a 'Water Services News' section with two articles, and a photo of a hydrologist. The right column, titled 'Service Highlights', lists three services: 'USGS Statistics Web Service', 'USGS Instantaneous Values Web Service', and 'USGS Site Service'.

**USGS**  
science for a changing world

**USGS Water Services**

Home REST Services SOAP Services Documentation Examples Links FAQ Contact us

**Water Service Shortcuts**

- > [Instantaneous Values Service](#) for real-time data and historical data since October 1, 2007
- > [Site Service](#)
- > [Daily Values Service](#)
- > [Groundwater Levels Service](#)
- > [Water Quality Service](#)
- > [Statistics Service](#)
- > [Frequently Asked Questions](#)
- > [Writing Fault-Resistant Code](#)

**Service Example**

This example uses a USGS water web service, as well as [AJAX](#), [JSON](#) and [jQuery](#) Web 2.0 technologies.

USGS Site No.   
[Find sites](#)

USGS Parameter

**Tips**

**Join the USGS Water Data Notification Service**

**USGS Water Services**

This site serves [USGS water data](#) via automated means using [web services](#) and [extensible markup language \(XML\)](#), as well as other popular media types. Services are invoked with the [REST](#) protocol. These services designed for high fault tolerance and very high availability.

**Water Services News**

**January 23, 2018 - Government has reopened**  
23 January 2018 18:00:00 GMT

- A Continuing Resloution has been signed until February 8, 2018

**January 22, 2018 - Government shutdown:USGS Water Data availability during lapse in Federal funding**  
22 January 2018 18:00:00 GMT

- Due to a lapse in Federal funding, the U.S. Geological Survey must suspend those parts of its data collection and distribution processes requiring human intervention. However, automated reporting and serving of telemetered data will continue.

Users may note some degradation in the quality and completeness of real-time streamflow, groundwater and water-quality data from some reporting stations

USGS hydrologist at work

**Service Highlights**

**USGS Statistics Web Service**

Retrieve daily, monthly or annual statistics for sites. Statistics are provided on approved data only for time-series sites. Statistics are available for any parameter on these sites with approved data. This service is an initial beta release. A full version of the service is planned for release in the summer of 2014. [Learn more](#) and [test the service](#).

**USGS Instantaneous Values Web Service**

Need current data? Try this service! Retrieve current streamflow and other real-time data for one or multiple sites, using sets of flexible, predefined filters, since October 1, 2007. Data are available in [WaterML](#), [JSON](#) and in a tab-delimited format with more formats, like Microsoft Excel, to come. [Learn more about the web service](#) or [test the web service](#).

**USGS Site Service**

Need USGS water site data? A [rich new site service](#) is now available as a production service. The service allows searches for USGS sites and site information using a variety of flexible filters. A [test tool](#) is also available. Output formats include tab-delimited and KML formats (used with Google Earth and Google Maps). Geography Markup Language (GML) is planned for a future release.

# Questions/Discussions