



GCGCD NEWS



FALL 2019 Newsletter

GCGCD celebrates its *second* 20-year anniversary!!

Yes, that's correct – our second 20th Anniversary!

Loyal GCGCD Newsletter readers may remember our Fall 2017 Newsletter headline celebrating the creation of the District in 1997 by SB 1582.

But it wasn't until the confirmation election held on November 2, 1999 where the voters of Guadalupe County confirmed the District and elected seven initial directors from single member districts (HB 3817).

Two very important dates for us –
So we like to celebrate them both!

Recognized as the state's preferred method of groundwater management, GCDs are legislatively charged with the mission of conserving, preserving, protecting and preventing waste of groundwater resources.

Over the past two decades, we have been fortunate to have dedicated directors invested in serving their community.

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WWW.GCGCD.ORG



Thankful

Visit our website for more information!



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Those Directors have worked hard over the years to establish a comprehensive management plan and rules to implement the management plan.

GCGCD recognizes that the groundwater resources of the region are of vital importance to the continued economic well-being of landowners, agriculture, citizens, economy, and environment.

The District's monitoring of aquifer levels, permitting and production enables us to manage and conserve the long-term use of this resource for us all.

For twenty years, GCGCD directors have been committed to this mission. In fact, GCDs across the state have been committed to managing groundwater since the creation of the first Groundwater Conservation District over 50 years ago.

[Link to map of Districts - TWDB](#)

As of February 2019, a total of 102 GCDs have been created in Texas!
A testament to the importance of preserving this precious resource.



*To All of the GCGCD Directors, past and present
Thank you for your continued service and devotion!
Kelley Vickers, GM*



*Kelley Vickers
General Manager*



To help us continue our mission, the District is pleased to welcome an addition to our staff!

Omar Maldonado, Intern turned Office Administrator/Field Technician – WELCOME!!



Pictured here: Omar cleaning solar panels at weather station

Potential New GCD

A special election will be held on November 5th to confirm the creation of a new groundwater conservation district - the Southwestern Travis County Groundwater Conservation District (SWTGCD).

SWTGCD will be a fee-based District.

For more info [Click here](#)





TAGD Groundwater Summit - August 2019

Another Great Success!

Excellent, Informative Speakers - Engaging Panel Discussions -
Abundant Networking Opportunities and Outstanding Fellowship

TAGD Officer Election and TAGD Area Caucus

At the August Annual Board meeting

President - Zach Holland, Bluebonnet GCD (Upper Gulf Coast Area)

Vice-President - Amber Blount, Sandy Land GCD (Ogallala Area)

Treasurer - David Bailey, Mid-East Texas GCD (Upper Carrizo Area)

Secretary - Greg Sengemann, Gonzales County UWCD (Edwards Carrizo Area)

Parliamentarian - Andy Garza, Kenedy County GCD (Lower Gulf Coast Area)



Other Executive Committee members include:

Janet Adams - Jeff Davis County UWCD (Far West Texas Area)

Ron Fieseler - Blanco-Pedernales GCD (Lower Edwards Trinity Area)

Diana Thomas - Irion County WCD (Upper Trinity Edwards Area)

Dirk Aaron - Clearwater UWCD (North Texas Area, past President)



First Ever



Fall Geronimo Alligator Creek Clean Up

Was held on Saturday, October 19th

THANK YOU to all of the VOLUNTEERS that continue to
help in cleaning up the creeks and roadways
that drain into them!

[Geronimo Creek Watershed & Land Use Map](#)



TAGD welcomes new edition to
staff **Julia Stanford** - formally the
Conservation Outreach Specialist
from North Plains GCD.

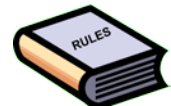
Welcome!



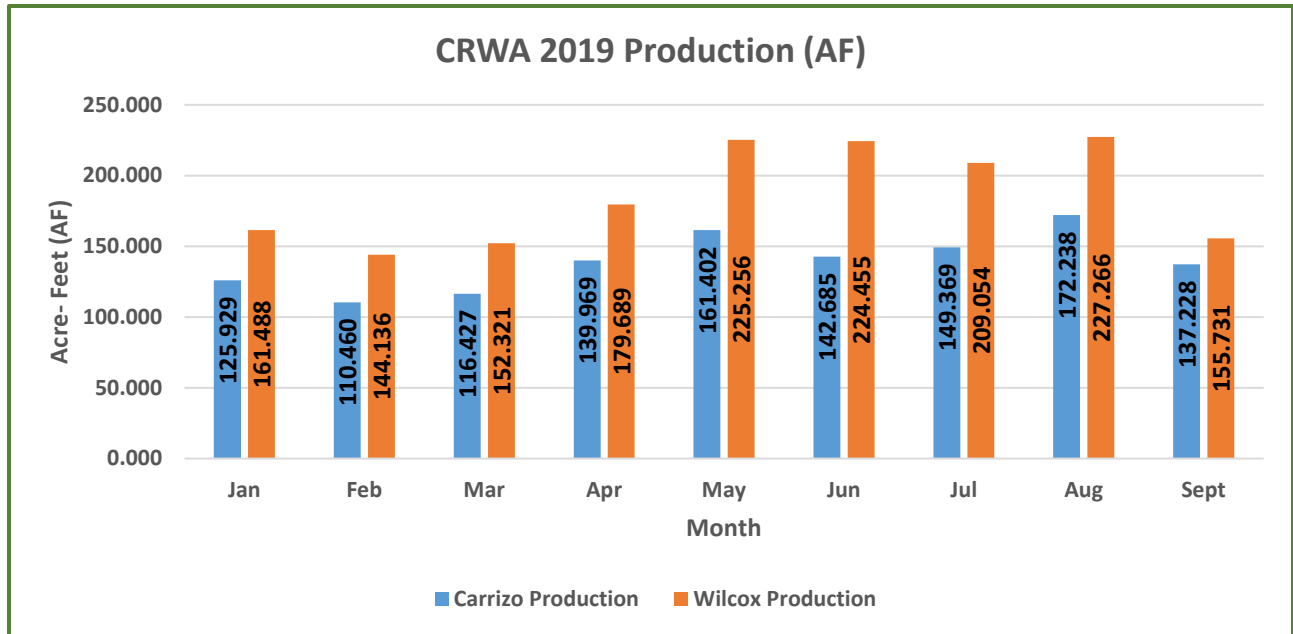
TWDB Flood Planning & Financing Programs – Established during the 86th Legislative Session

Upcoming opportunities for stakeholders to review and comment on administrative rules to
implement the new state flood planning and finance programs – tentatively scheduled for
November 14th and December 5th

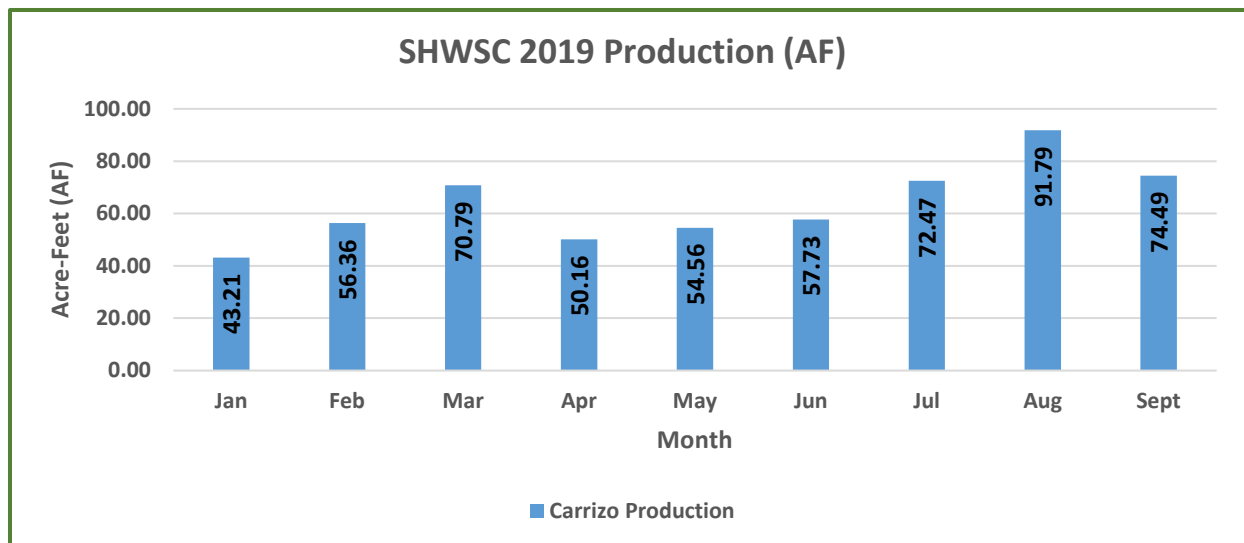
Check here for more info: <http://www.twdb.texas.gov/>



Current Production within the District by Public Water Supply Entity for 2019



Canyon Regional Water Authority holds permits with GCGCD totaling
 Carrizo Aquifer: 2,603.415 AF/YR Wilcox Aquifer: 3,026 AF/YR



Springs Hill Water Supply Corporation holds permits with GCGCD totaling
 Carrizo Aquifer: 1,106.23 AF/YR

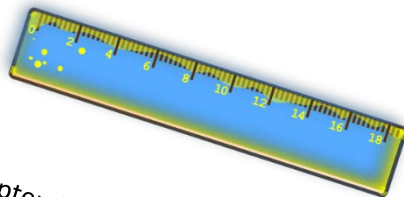
Water Levels



September 2018 – September 2019

William B. Klemt

William B. Klemt, P.G.



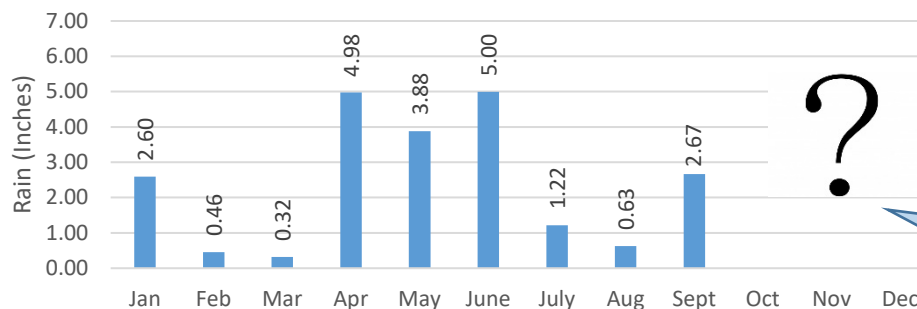
Summary for the period September 2018 - September 2019

- Water levels in the Carrizo Aquifer have declined about -1.64 feet
- The largest Carrizo measured water level declines were in the CRWA & SSLGC areas
- Wilcox Aquifer water levels were down about -0.64 feet
- In the Carrizo Outcrop - water level decline is about -1.53 feet per year - However;
- Long term (17 years) Carrizo water level declines in the Outcrop are on the order of -0.5 feet per year
- Small to moderate water level declines in the Carrizo Aquifer are expected over time because of the production from SSLGC, SAWS, SHWSC, & CRWA well fields in Guadalupe & Gonzales counties

To view the full report including water altitude maps visit our website:

<http://gcgcd.org/monitoring-wells.html>

2019 Rainfall - GCGCD Average



I wonder how much rain will fall this Fall?

Remote Sensing Project / Recharge Potential Study

In September of this year, the Board authorized to continue researching the use of Remote Sensing and GIS to determine recharge potential and aquifer characteristics.

Shawn Vickers of Kiva Consulting and the District's consulting geologist William B. Klemt have teamed up to continue this fascinating project with the following objectives:

OBJECTIVES

1. Use remote sensing and GIS datasets to establish the nature, extent, location and effect of surface geologic features such as faulting, soil permeability, clay content changes, and vegetative changes to identify and map areas within the Carrizo outcrop of recharge, discharge, and runoff.
2. Use remote sensing and reliable well yield data, including data developed during the monitor well drilling and hydrologic testing to define the location, extent, and interrelationship of differences in soil vegetative characteristics to hydrologic parameters such as aquifer well yields permeability, transmissivity, and specific yield.

PHASE 1

1. Creation of New Datasets:
 - a) Watershed Delineation – Drainage density, regions, characteristics, etc.
 - b) Topographical Mapping – Interpretations of the LIDAR elevation data to create hypsography (contours), slope and other characteristics that could influence recharge
 - c) Land Use Mapping – Land cover, impervious cover
 - d) Soil Units – Soil characteristics
 - e) Vegetation Classification – Spectral signature analysis of satellite imagery
2. Create Recharge Potential Maps – By mapping different physical features that influence infiltration



Watershed Delineation involves identifying watershed divides and contributing streams. Watershed and stream segments will be created using an elevation model created by FEMA LIDAR (light detection and ranging) air-based scanner. This data set is over 3 times higher resolution than what has been available in the past.

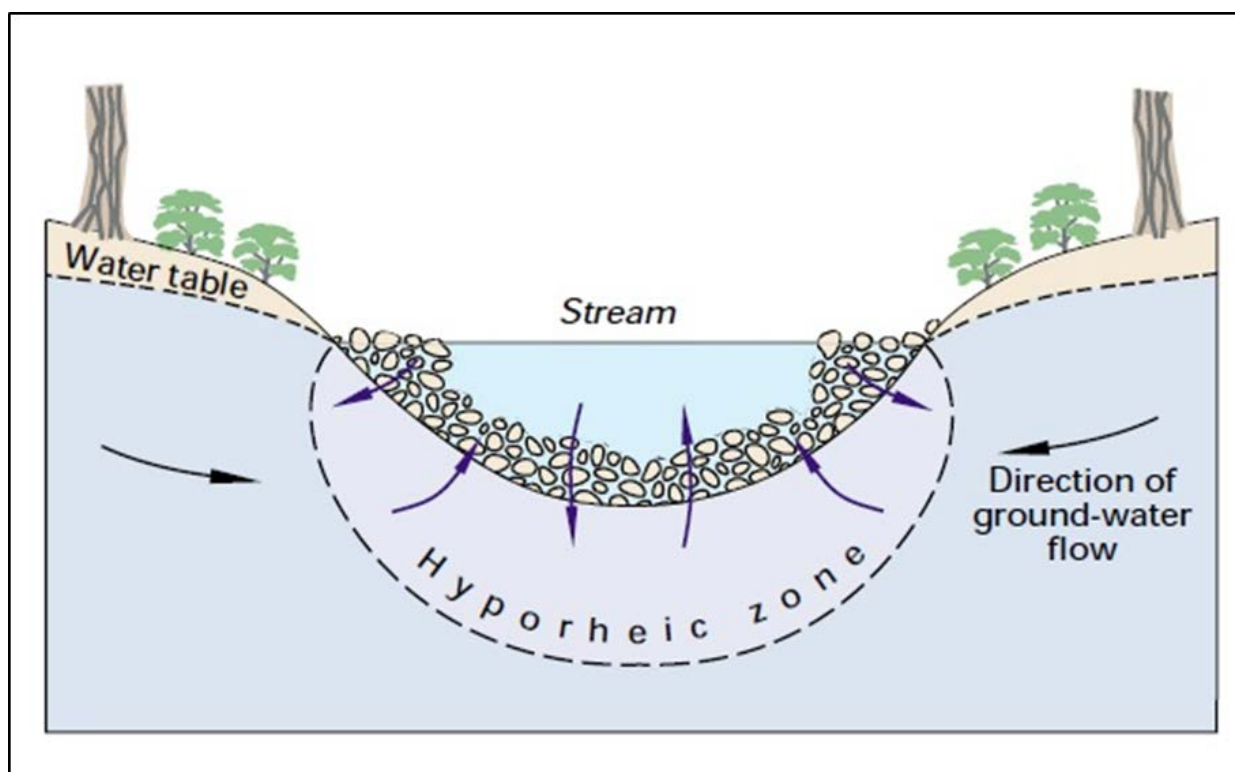
Hyporheic Zone

Groundwater / Surface Water Interaction

When discussing groundwater and surface water, one might think that they are two separate entities. However, there is connectivity in the porous spaces and sediment that lie below or adjacent to streams where groundwater and surface water interact - mixing in and out of streams. This area is known as a [Hyporheic Zone](#).

This mix or *hyporheic exchange* carries dissolved oxygen, pollutants, and nutrients into the groundwater and the transformed products flow back into the stream.

The hyporheic zone is essential in the balance and prosperity of aquatic environments of the stream and nearby areas. The benefits of this mixture of groundwater and surface water include dilution and biodegradation of pollutants, spawning grounds for certain species of fish, rich soil for aquatic plants, the cycling of carbon and nutrients, moderating river temperature, and a rich environment for many organisms to thrive.



The hyporheic zone, from [USGS Circular 1139](#)

Citation: Witman, S. (2018), Life in the hyporheic zone, *Eos*, 99, <https://eos.org/research-spotlights/life-in-the-hyporheic-zone>

Conservation



Natural Resources Conservation Service – formerly known as the Soil Conservation Service – is an agency of the US Department of Agricultural which provides technical assistance to farmers and private landowners to develop and implement conservation plans to protect, conserve and enhance their natural resources.

One such program is **Subsurface Drip Irrigation**.

Using buried lines and emitters to apply a slow, frequent application of water to the soil and surrounding plant roots reduces water loss from surface evaporation and runoff. Well-designed drip irrigation systems are more efficient, less expensive to maintain and conserve more water.

For assistance is applying improved irrigation technology to your property – reach out to the folks at NRCS where **Helping People Help the Land** is their motto!

To see pictures of NRCS irrigation projects click here → [Link to photos](#)



Founded by former First Lady of the United States Mrs. Laura Bush in 2011, [Texan by Nature](#) is a non-profit organization that unites businesses with conservation initiatives promoting stewardship of Texan's natural resources.

The [Conservation Wrangler](#) program highlights the very best Texan-led conservation projects in the state that benefits the community - providing tangible returns for people, prosperity and natural resources. Conservation Wrangler programs are science based with measurable conservation outcomes reaching new and diverse audiences. This **November 13th** at the George W. Bush Presidential Center in Dallas, TX [The Texan by Nature Conservation Wrangler Summit and Celebration](#)

Click to view

[Conservation Wrangler Projects](#)



The Railroad Commission of Texas recently received over half a million dollars from the Environmental Protection Agency (EPA) to protect groundwater from underground injection and disposal wells. The RRC serves Texas through stewardship of natural resources and the environment; concern for personal and community safety; and support of enhanced development and economic vitality for the benefit of Texans.



TWDB is hiring!

Looking for an opportunity to work for the Texas Water Development Board? Click here for a list of all [open positions](#)

UPCOMING EVENTS –

November 3rd Daylight Saving – Set your clock back one hour!
November 7th Region L @ SAWS <http://www.regionltexas.org/2019-meeting-materials/>
November 8th GMA 13 Meeting @ EUWCD 10 AM
November 13th Texan by Nature Conservation Wrangler Summit – Dallas, TX
November 14th GCGCD board meeting 122 W. Ireland St. @ 4:30 PM
November 28th – 29th GCGCD office closed in celebration of Thanksgiving!
No GCGCD Regular board meeting in December – Next meeting January 9, 2020



GCGCD Board of Directors & Staff

Kelley A. Vickers – General Manager
kelley@gcgcd.org

Omar Maldonado – Office Administrator/Field Technician
omar@gcgcd.org

District 1 - Ron Naumann - Director
ron@gcgcd.org

District 2 - Hilmar Blumberg - Secretary
hilmar_blumberg@gcgcd.org

District 3 - A. Robert Raetzsch – Director
raetzsch@gcgcd.org

District 4 - William Jones – Treasurer
bill_jones@gcgcd.org

District 5 - Charles J. Willmann - Director
charlie_willmann@gcgcd.org

District 6 - Hilmar Starcke III - President
hil_starcke@gcgcd.org

District 7 - Jeff Schuehle - Vice President
jeff_schuehle@gcgcd.org

William B. Klemt - Consulting Geologist
bill_klemt@gcgcd.org



Nov 3, 2019 - Daylight Saving Time Ends

Set your clocks back one hour at 2 am



The U.S. adopted [Daylight Saving Time](#) near the end of World War I and again during World War II, but between 1945 and 1966, there was no federal law regulating it. This led to confusion between states, and in 1966 Congress passed the [Uniform Time Act](#) to establish uniform dates for observing Daylight Saving Time.

Texas first observed Daylight Savings Time in 1970

During this 86th Legislature Session [House Bill 49](#) (Introduced by Larson) attempted to end Daylight Savings Time in Texas. The bill proposed both Central and Mountain time zones would Fall back in November to an official Standard Time – the bill was left pending in committee. *Will it return?*

*California recently decided to end Daylight Saving

Do you like Day Light Saving Time?

