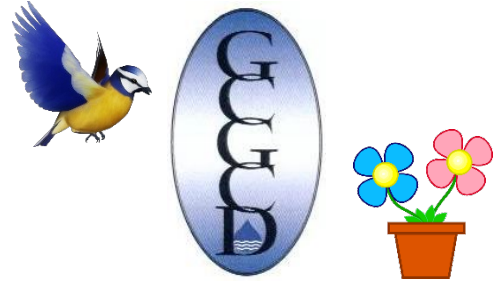




GCGCD NEWS



SPRING 2023 Newsletter



IN THIS ISSUE

Earth Day	pg. 1
GM News	pg. 2
Water Levels	pg. 3
Cleanup/Earth Day	pg. 4
Rainfall	pg. 5
Production	pg. 6
Recoverability Tool	pg. 7
Upcoming Events	pg. 8
Did you know?	pg. 8



Earth Day Celebration

GCGCD once again joined Seguin in celebrating Earth Day!

On April 29th – to coincide with Seguin trade days - [Seguin's Main Street Program](#) organized another incredible event. Residents shopped local vendors while walking around the downtown square visiting booths from a variety of businesses.

The Guadalupe County Groundwater Conservation District engaged with the community - sharing water conservation tips, aquifer science, importance of water well registration and other District programs.

We want to thank everyone that took the time to visit with us! Thank you all for being stewards of the environment!

Pics of page 4.



WWW.GCGCD.ORG



Visit our website for more information!



Happy Spring Everyone!

We are so happy to see so much rain as we begin Spring. We're not out of the drought just yet folks - so please stay water conscious and conserve every drop!

Sneak Peak of projects in the works!

The District has been busy working on development of a new in-house web-based application to provide easier access to our data.

We are continuing our impact analysis study of permitted wells in both the Carrizo and Wilcox aquifers - using Theis analytical solution to estimate current impacts (water level declines) by each permittee based on historic pumping.

Be sure to read our Summer Newsletter for updates on these projects and so much more!



*Kelley Cochran
General Manager*



Kelley

THE SEGUIN
GAZETTE
DELIVERING LIFE TO OUR COMMUNITY SINCE 1888

**GUADALUPE COUNTY
GROUNDWATER
CONSERVATION DISTRICT**

200 N. Austin St. Ste#301,
Seguin, TX 78155
830-379-5969

2022-2023 Silver Sponsor
**NEWSPAPERS
IN EDUCATION**



12th Annual Texas Groundwater Summit will take place August 29-31, 2023 at the [Hyatt Regency Hill Country Resort](#) in San Antonio. Register by June 9 to take advantage of an early bird discount!

[Click to Register](#)

Water Conservation Tip!

Add mulch around your flower beds and plants!

Benefits include:

- Insulating the base of the plant to keep the roots at a stable temperature.
- Reducing evaporation of water by shading the soil while retaining moisture.
- Reducing weed growth by blocking sunlight at the base of the plant.



Not only can mulching save water, but it can also save money and time not picking weeds!

Plus, it looks nice!

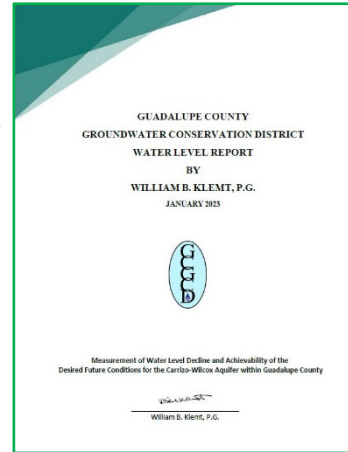
[source](#)



READ ME

To learn more about our monitoring well program – visit our website @

[MONITORING WELLS - Guadalupe County Groundwater Conservation District \(gcgcd.org\)](#)



January 2023 water level report by William B. Klemt

Summary:

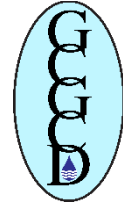
- Short term (Jan. 2022-Jan. 2023) Carrizo water levels declined about -1.43 feet;
- Long term (2013-2022) Carrizo water levels in the outcrop indicate an average decline of 0.58 feet/year;
- Based on estimated average water-level data for the 6 monitor wells (2013- Jan. 2023), the District is projected to meet 2070 and 2080 DFC requirements;
- At the present-day level of pumpage, small to moderate water-level declines are continuing in the Carrizo aquifer;
- However, additional proposed pumpage is expected to increase the rate of Carrizo water-level decline within the District to a more moderate level;
- For the most part, Wilcox water levels remain relatively stable;
- It is recommended the District continue monitoring the chemical quality and field parameters in the District's observation wells in order to detect natural changes or contamination of the groundwater.



It is important to periodically sample your well water and take the sample to an accredited laboratory for proper analysis. Presence of fecal coliform is an indicator the water may not be safe to drink. The GBRA lab, located right here in Seguin, is equipped to perform physical, chemical, and biological analyses of groundwater samples.

For a list of analytical services offered and a fee schedule – visit the [GBRA Lab](#)

A weekend dedicated to protecting our environment –
Guadalupe County, Texas, EARTH



Thank you to everyone
for supporting these
amazing events!



10th Annual
Geronimo/Alligator
Creeks Clean-up Event

TEXAS A&M
AGRILIFE
EXTENSION

GERONIMO & ALLIGATOR
WATERSHED PARTNERSHIP

Welcome, the new watershed
coordinator for the Geronimo
and Alligator Creeks
Watershed Partnership
project – Annalee Epps.



Caroline and Omar helped pick up trash
along the watershed on April 22nd.



Omar, Kelley, & Caroline engaged with the community
discussing water conservation.



Thank you, Mayor Donna Dodgen, for visiting
our booth at the Seguin Earth Day event.



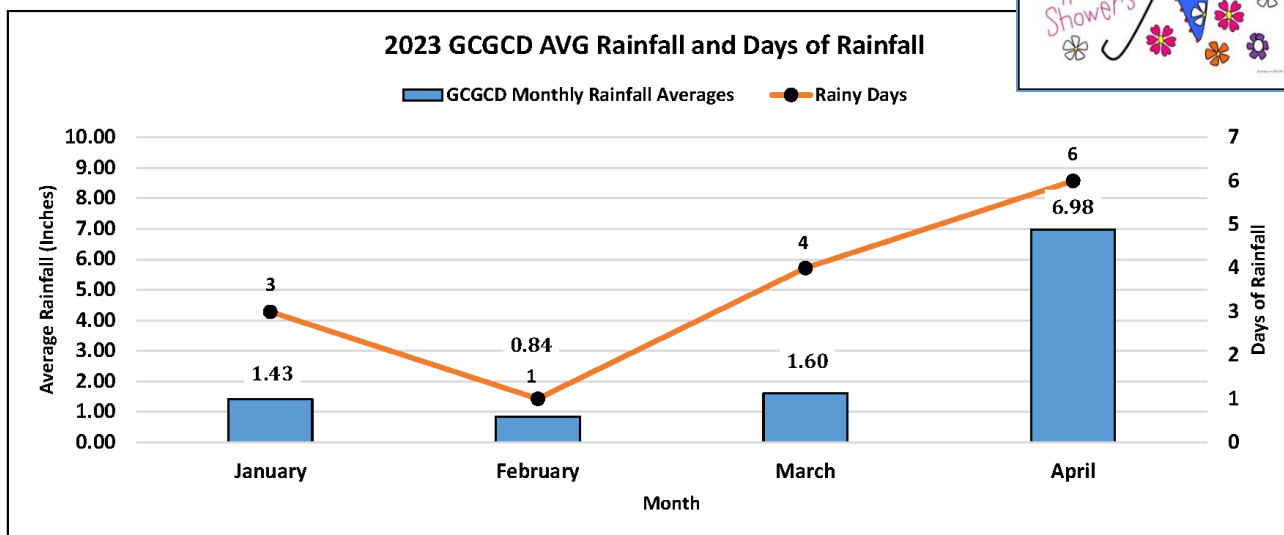


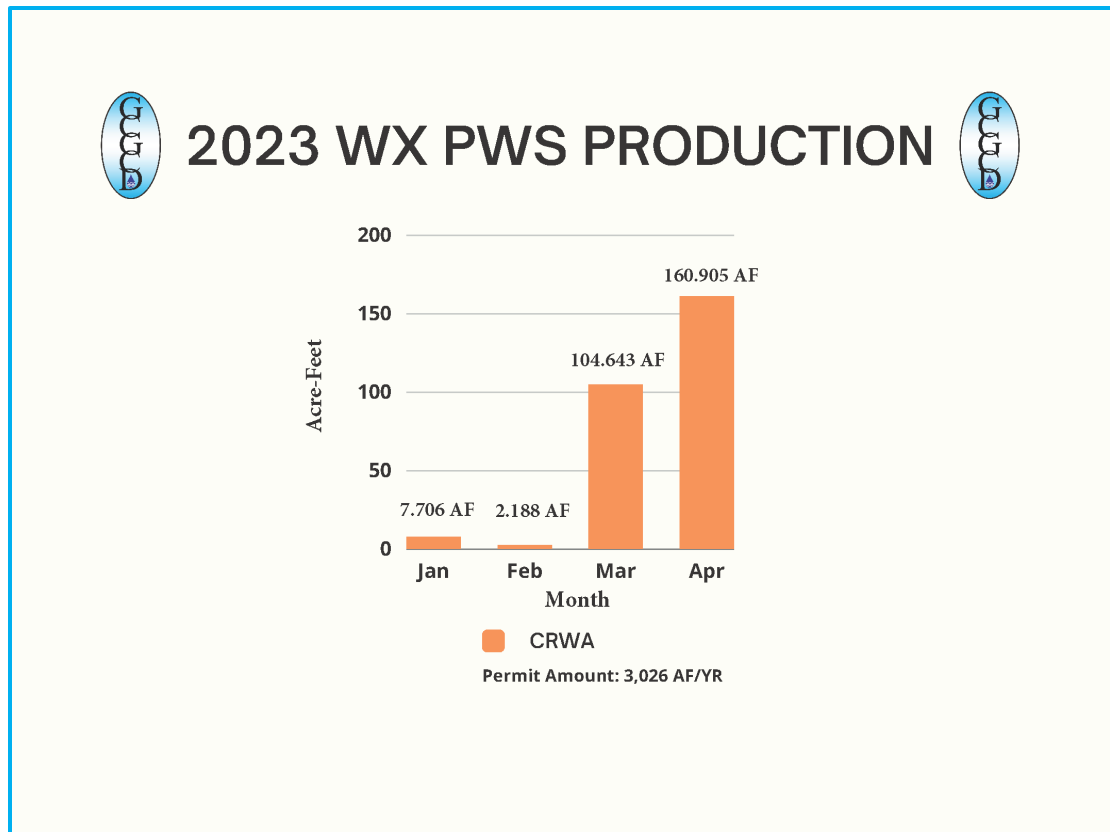
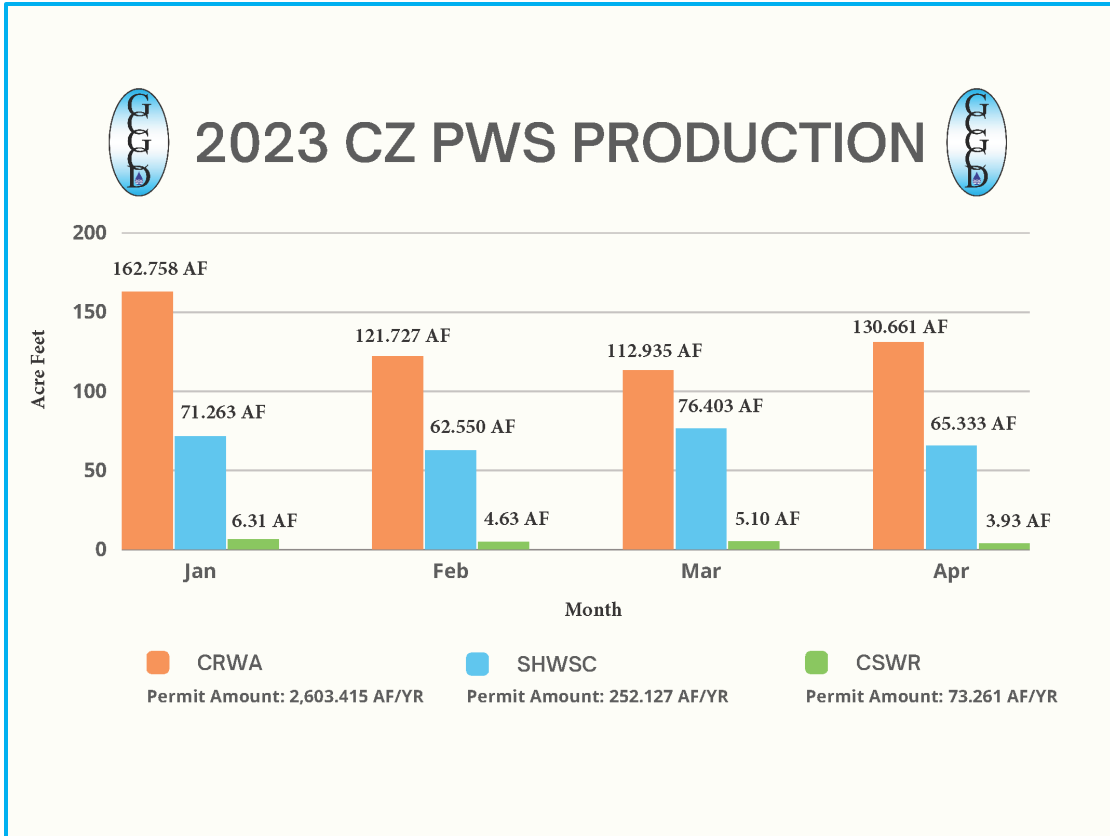
Rainfall averages across the District

Off to a good start this year.....



GCGCD Average Monthly Rainfall (in.) for 2023													
TexMesonet Station	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Annual Total By Site
Baker Ranch	0.32	0.19	1.95	6.09									8.55
Diamond Half Ranch ★	1.91	1.27	2.88	13.95									20.01
Grones Ranch	1.94	0.96	1.61	6.27									10.78
Jones Ranch	1.73	1.51	1.90	12.08									17.22
Randolph Auxiliary	1.71	0.65	0.91	4.01									7.28
SHWSC Office	1.50	0.79	1.34	4.29									7.92
SHWSC Plant	2.05	1.00	1.60	4.99									9.64
Strey Ranch	0.27	0.34	0.60	4.13									5.34
													Total Avg
Monthly Avg	1.43	0.84	1.60	6.98									10.84





New Tools for Quantifying Groundwater Recoverability in Texas

GCGCD recently participated in a pilot study – developed by **Dr. Justin C. Thompson** of the Bureau of Economic Geology – aimed to quantify how recoverability of groundwater changes in depth to water by assessing well responses. The District provided data on a sampling of wells for input into the model.



BUREAU OF
ECONOMIC
GEOLOGY



Aquifer Parameters

- Formation geometry
- Depth-to-water
 - Initial and final
- Hydraulic Conductivity
- Storage Coefficients

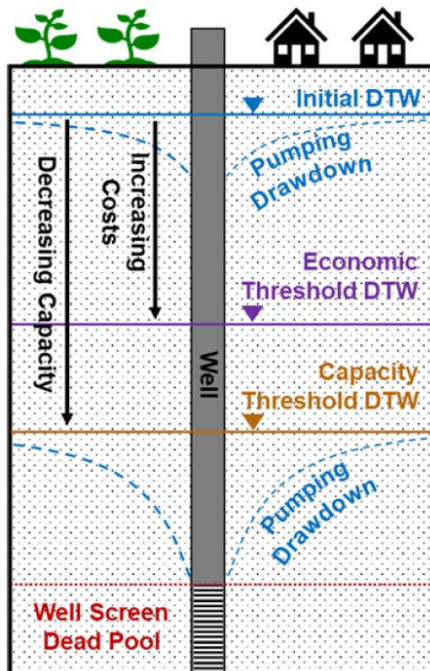
Well Parameters

- Borehole geometry
- Well screen geometry
- Infrastructure lifespan
- Restrictions
- Efficiency

Use Parameters

- Use type
- Pumping
 - Rate, period, sessions
- Prices
 - Power, equip, drilling

MODEL



Graphics courtesy of Dr. Justin C. Thompson

Results

- Operational status
- Producing formation
- Well penetration
- Drawdown
- Remediation options
- Costs

Potential Applications

- Direct socioeconomic impacts of DFC's
- Trigger points for further studies
- Yield analyses using Depth To Water thresholds
- Evaluate "what if" yield scenarios and impacts
- Locate feasible production areas

Hydro-Economic Well Performance Tool

Motivation behind development:

Address Socioeconomic Impacts

- Currently - No quantitative tool to evaluate socio-economic impacts of DFCs

Recoverable Yields

- No method to evaluate "what if" yield scenarios and impacts
- Targeted mitigation / remediation
- Support permitting decisions

UPCOMING EVENTS

- May 11th GCGCD Board Meeting – Agenda posting www.gcgcd.org
- June 8th GCGCD Board Meeting - Agenda posting www.gcgcd.org
- July 13th GCGCD Board Meeting - Agenda posting www.gcgcd.org



GCGCD Board of Directors & Staff

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

Omar Maldonado – Field Tech/Admin. Assistant
omar@gcgcd.org

District 1 – Matt Miranda - Director
mattjmiranda@gcgcd.org

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

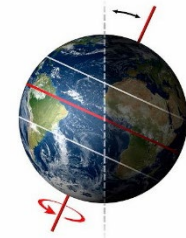
District 3 - A. Robert Raetzsch – Director
raetzsch@gcgcd.org

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

District 5 – Mark Gustafson - Director
mark_gustafson@gcgcd.org

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

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



Did you know the Earth’s axis may be shifting due to excessive groundwater pumping?

NASA scientists published a study in 2016 highlighting the role of groundwater depletion, specifically in India, as related to the movement of the Earth’s axis.

Loss of ice in North America, post the last Ice Age, has been pulling the axis towards Canada a few inches every year. But an abrupt shift happened around the year 2000 - drifting the Earth’s axis east about seven inches a year.

Scientist concluded that the rapid melting of ice sheets is not solely the blame. Drought and the depletion of aquifers in the subcontinent of India have been identified as another cause of the Earth’s shifting axis.

[source](#)

GCGCD
PO Box 1221
Seguin, TX 78156
830-379-5969
200 N. Austin St. Suite # 301
Seguin, TX 78155
www.gcgcd.org
gcgcd@gcgcd.org