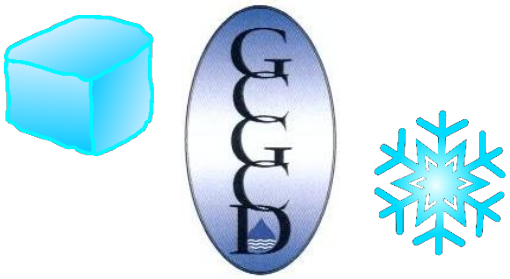
GCGCD NEWS



WINTER 2016-2017 Newsletter

GCGCD Upgrading Rain Gauge Network

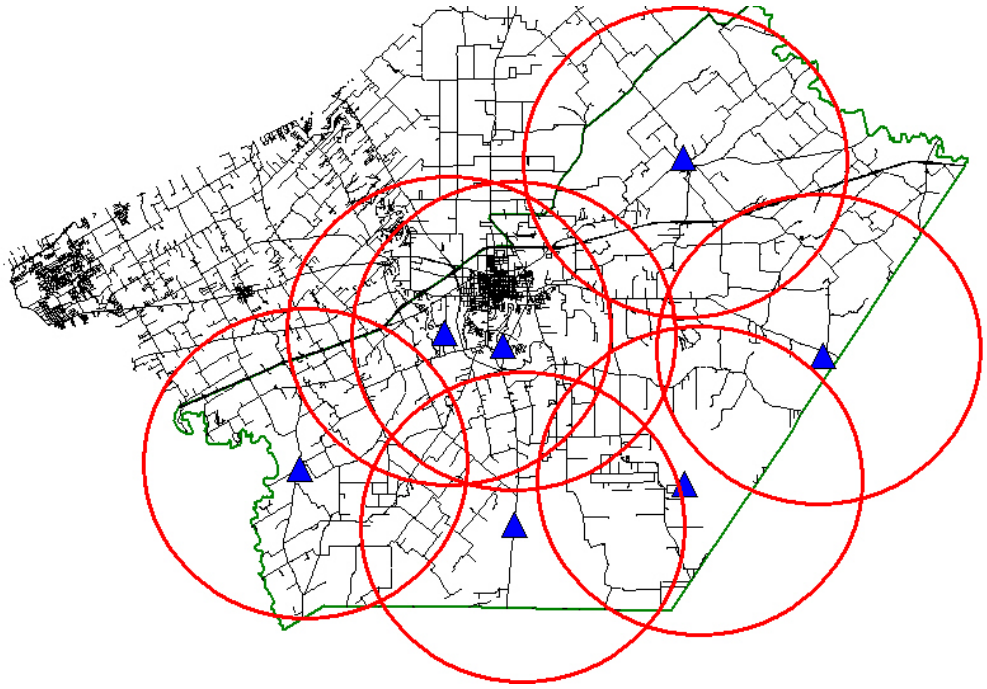
In a cooperative, cost sharing effort with the Texas Water Development Board (TWDB) TexMesonet program, GCGCD will be installing seven new weather stations across the District. The equipment is being ordered now and we anticipate installation to begin by end of February – early March. Our current rain network will stay in place as we make the transition. Because the coverage with the new system will be much greater, we have reduced the number of sites from ten to seven. A special "Thank you" to the landowners who have generously permitted us to locate these weather stations on their property. We could not do this without your participation. THANK YOU!

WWW.GCGCD.ORG

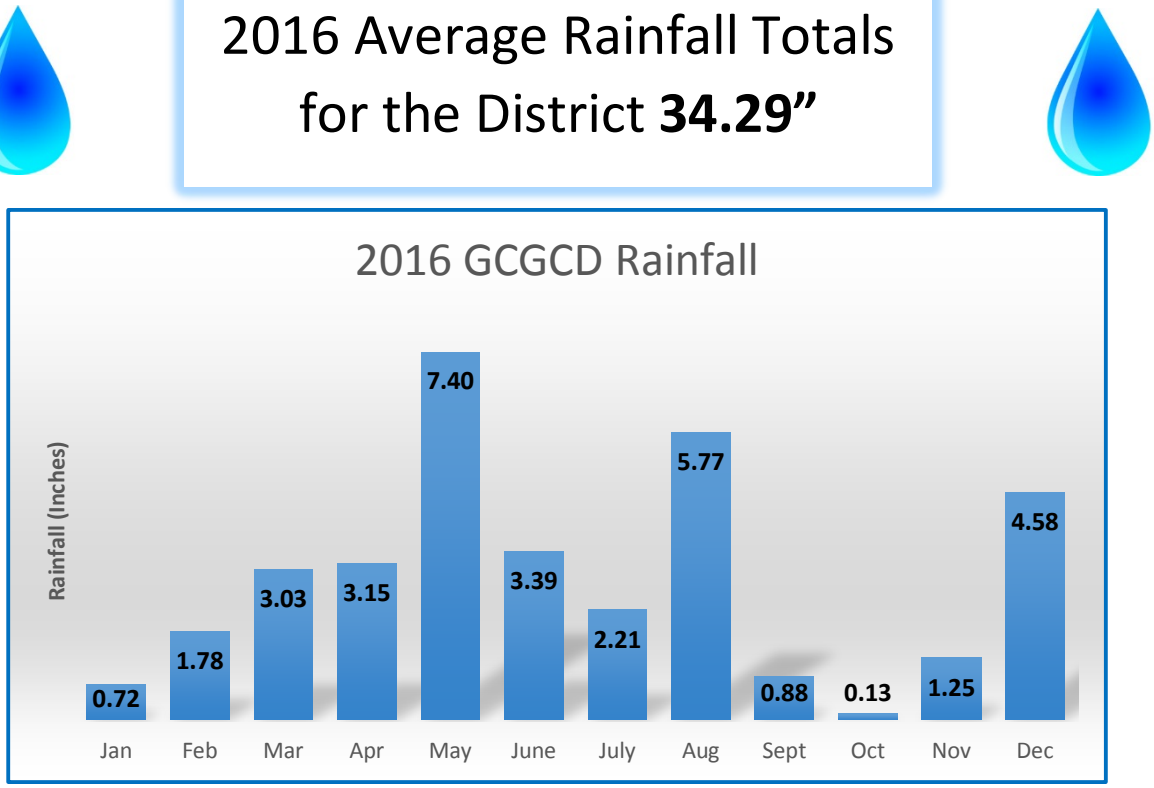
Visit our website for more information and much more!

IN THIS ISSUE

Coverage map of new GCGCD weather network



2016 Average Rainfall Totals for the District **34.29”**



GMA 13 is completing the Explanatory Report and will be submitting all required documents to TWDB. Once the desired future condition (DFC) is determined to be achievable, TWDB will estimate the Modeled Available Groundwater (MAG).

What's in the Explanatory Report?

- Each desired future condition
- Policy and technical justifications
- How the factors were considered & how the Desired Future Condition impacts each factor
- Other Desired Future Conditions considered
- Public comments

Adopted Scenario 9 – Guadalupe County
Total Amount of Water Available for Permitting (Through 2070 in Acre Feet)

Carrizo	16,851
Middle Wilcox	8,218
Lower Wilcox	22,723

GROUNDWATER AVAILABILTY MODEL

GAM - Used to estimate MAG from DFC

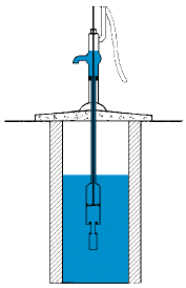
Texas Water Development Board

What is a MAG?

Modeled Available Groundwater

The amount of groundwater pumping that will achieve the desired future condition(s).

POLICY + SCIENCE = GROUNDWATER AVAILABILITY



DFC GAM MAG

Region L

MAG Peak Factor

What's that?

Texas Water Development Board

Modeled Available Groundwater (MAG) Peak Factor

TWDB Program Information Sheet 1/6/17 sarah.backhouse@twdb.texas.gov

Texas Water Code (TWC) §36.1132 requires management of groundwater production on a long-term basis to achieve applicable desired future conditions. In practice, this may include variations in pumping from year to year, for example, in response to relative wet and dry periods. Modeled available groundwater (MAG) is the amount of water that the TWDB Executive Administrator determines may be produced on an average annual basis to achieve a desired future condition. Most of the MAG values were developed using groundwater availability models calibrated for long-term average, not drought of record, conditions.

In response to stakeholder concerns during the fourth cycle of regional water planning, the TWDB revised its planning rules to include a MAG Peak Factor that ensures that regional water plans have the ability to fully reflect how, under current statute, groundwater conservation districts anticipate managing *groundwater production* under drought conditions[i].

WHAT IS THE MAG PEAK FACTOR?

Learn More – Click icon →

Texas Water Development Board

The purpose of the MAG Peak Factor is to

- provide reasonable flexibility and provide temporary accommodation of increased groundwater pumping above the MAG;
- accommodate anticipated fluctuations in pumping between wet and dry periods, or to account for other shifts in the timing of pumping while remaining consistent with desired future conditions;
- allow regional water planning groups to develop plans that reflect more realistic drought condition groundwater availability and pumping, where appropriate; and
- maintain the integrity of the regional and state water planning process.

The use of proposed MAG Peak Factors requires review and approval by relevant groundwater conservation districts, groundwater management areas, regional water planning groups, and the TWDB Executive Administrator.

MAG Peak Factors *(continued)*

Subject to many factors, the MAG Peak Factor might be considered in instances, for example, where

- actual pumping in wetter years is expected to fall below the modeled available groundwater thereby allowing intermittent pumping of volumes greater than the modeled available groundwater during drought; or,
- groundwater pumping in early decades is expected to consistently remain well below the modeled available groundwater thereby accommodating pumping volumes somewhat higher than the modeled available groundwater in later decades – all while achieving the desired future condition.

The MAG is the amount of water that can be produced on an annual average basis, instead of the amount that can be permitted. Groundwater conservation districts must consider MAGs, along with other factors in TWC §36.1132, when issuing permits for groundwater production. Accordingly, the MAG Peak Factor reflects groundwater available for pumping, not permitting, and is utilized for regional water planning purposes only. The MAG Peak Factor is not intended as a limit to permits or as guaranteed approval or pre-approval of any future permit application.

HOW DOES THE PROCESS WORK?

It is not a mandatory requirement that regional water planning groups utilize MAG Peak Factors in the development of their regional water plans. Rather it is the decision of each planning group, in concurrence with the relevant groundwater conservation district and groundwater management area, to determine what, if any, MAG Peak Factor is appropriate for planning efforts. A groundwater conservation district may also initiate the use of the MAG Peak Factor. The definition specifies that a MAG Peak Factor would be expressed as a percentage of modeled available groundwater (e.g., greater than 100 percent) and would represent the quantified annual groundwater availability for planning purposes.

Regional water planning groups must request that the TWDB Executive Administrator approve each MAG Peak Factor. Each planning group request for MAG Peak Factors must

- include written approval from both the relevant groundwater conservation district, if one exists within the particular aquifer-region-county-basin split, and representatives of the groundwater management area;
- include the technical basis for the request in sufficient detail to support groundwater conservation district, groundwater management area, and the Executive Administrator evaluation; and
- document how the MAG Peak Factor will not prevent the associated groundwater conservation district(s) from managing groundwater resources to achieve the desired future condition(s).

If approved by the Executive Administrator, each MAG Peak Factor would be applied by the TWDB to the associated modeled available groundwater volume to calculate the modified groundwater availability volume that would be used by regional water planning groups.

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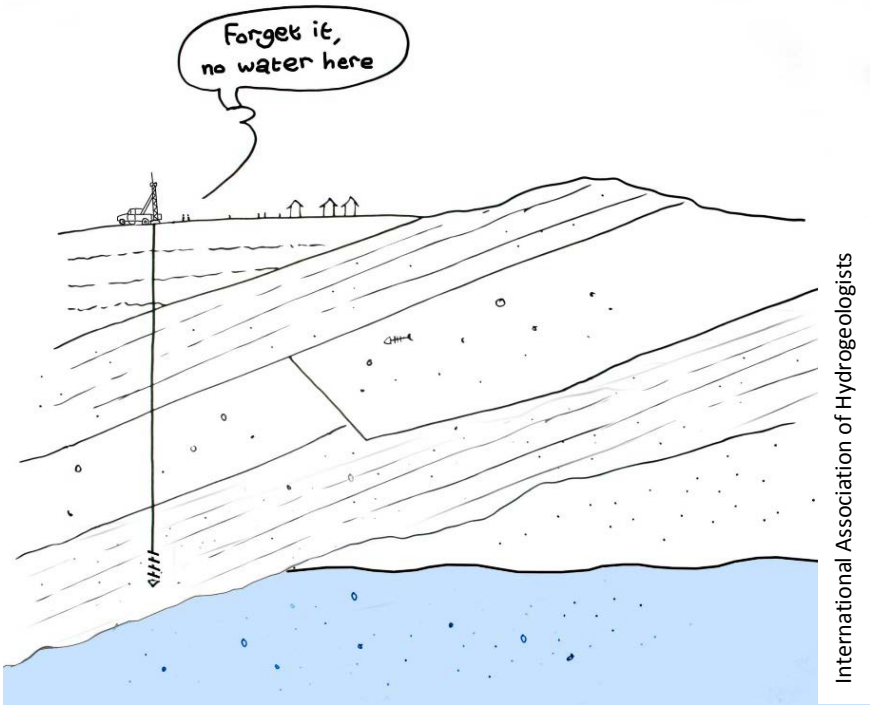
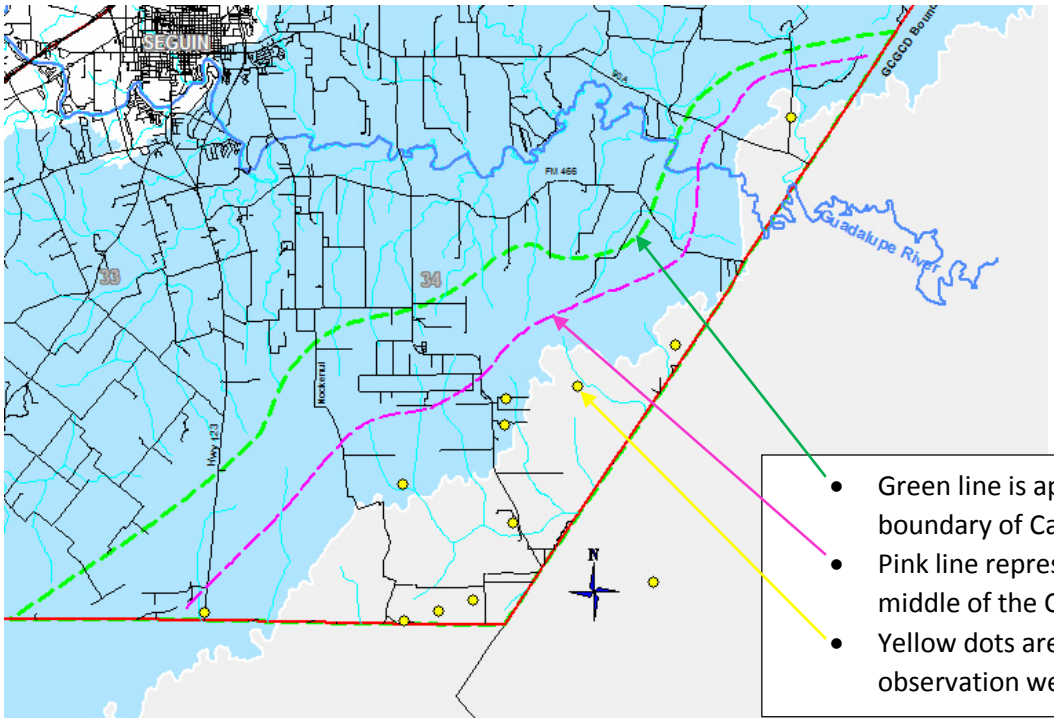
i 31 TAC §357.10(20); process §357.32(d)(3). This rule change eliminated the effect of modeled available groundwater values acting as immovable, "hard caps" on groundwater *pumping* that could be reflected in the regional water plans.

DFC Monitoring Well Program – Where to drill these wells?



International Association of Hydrogeologists

GCGCD is excited to participate in the joint project with Gonzales County Underground Water Conservation District (GCUWCD) to locate several new observation wells along the outcrop of the Carrizo Aquifer to measure the effects of pumping over time and ensure we meet our Desired Future Conditions. But where's the best place to put these wells? Answer: *Near the middle of the outcrop where saturated thickness known*.
How do we *know*? Stay Tuned…….



- Green line is approximate boundary of Carrizo Aquifer
- Pink line represents approximate middle of the Carrizo outcrop
- Yellow dots are current Carrizo observation wells

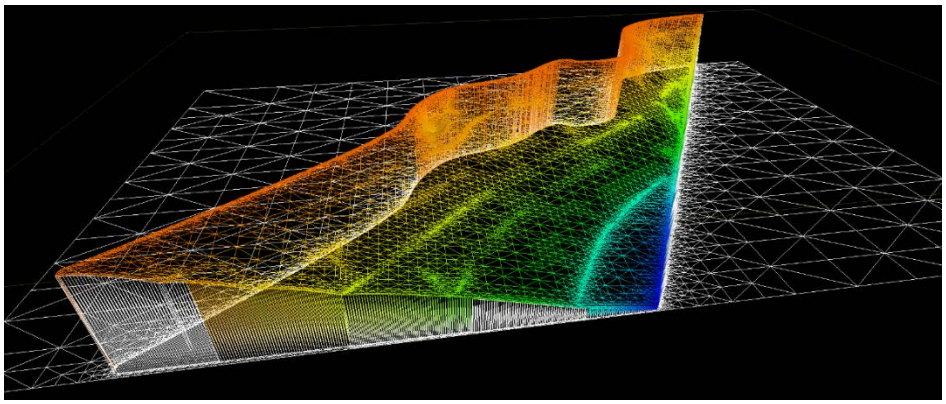
Locating Groundwater using the "Best Available Science"

Image curiosity of National Library of Wales

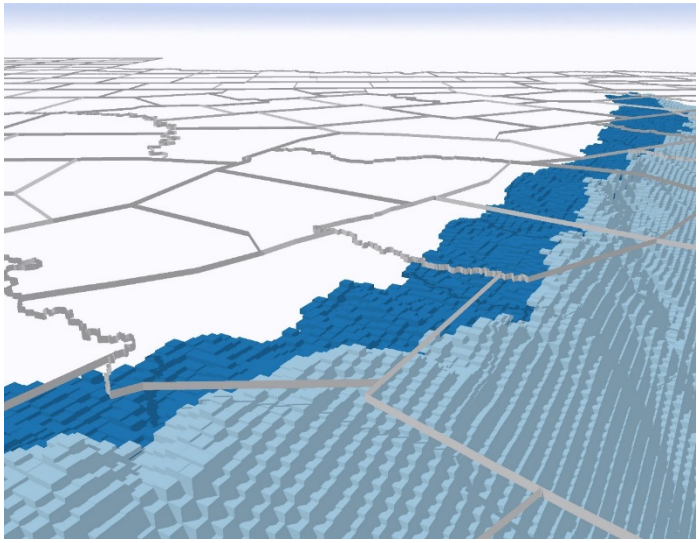
As a groundwater conservation district, Chapter 36 of the Texas Water Code instructs us to use "the best available science in the conservation and development of groundwater". (§36.0015b)

Methods of locating groundwater have evolved over the years. Dowsing, witching, or divining may have origins dating back as early as the 15th century in Germany. ***Or Maybe… …. WAY EARLIER!!***

Today we use a somewhat different approach. Advances in computer technology, such as 3D mapping, enable us to take a virtual 'peak' under the surface. By using information gathered from geophysical logs, driller's well logs, data from pump tests, and hydro-geological reports, GCGCD is using sophisticated software applications to give us a better understanding of aquifer characteristics, groundwater levels and so much more.



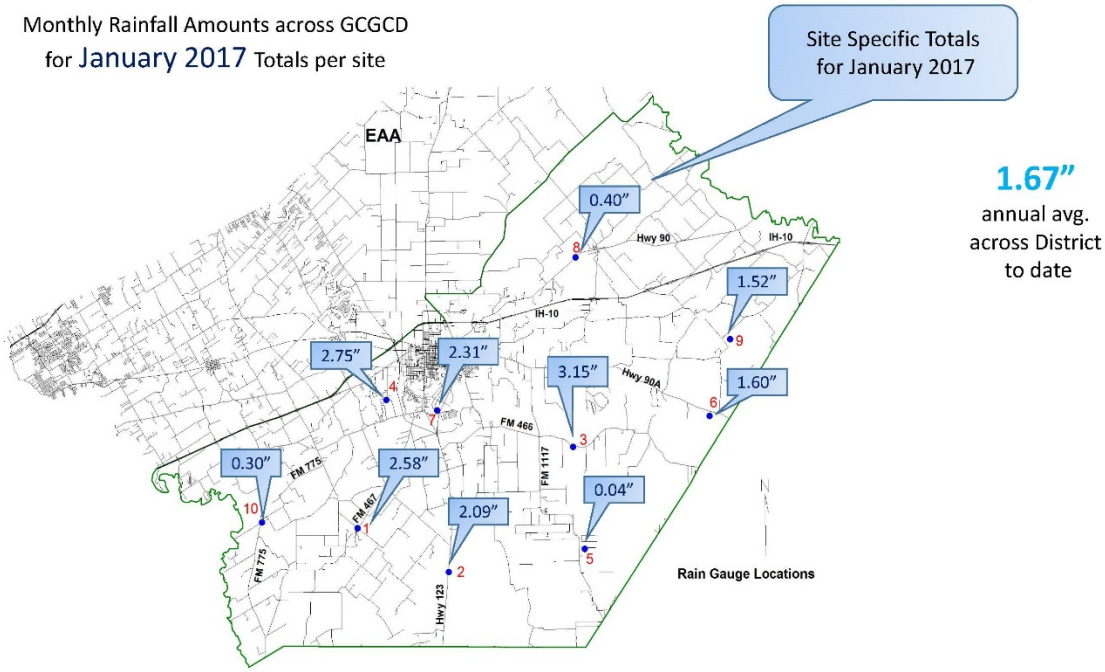
Aquifer Levels



TWDB Water Data Interactive

It's that time of year again! GCGCD was back in the field checking water levels at the end of January. Bill Klemt will have the report soon and you can look for it on our website!

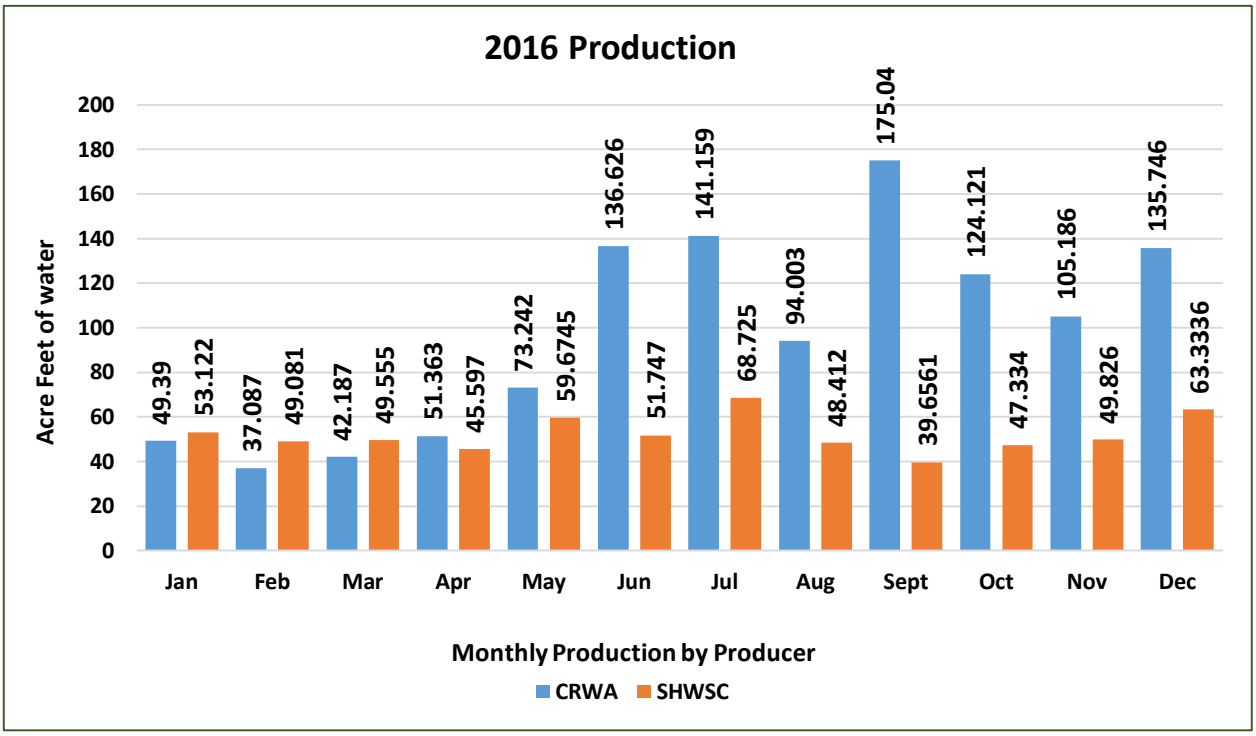
Here's what we recorded for January of this year



1.67"
annual avg.
across District
to date

Winter Months Water Tips

1. Insulate water pipes in unheated areas
2. Drip your faucets
3. Check for leaks after first thaw
4. Know where your property shut off valve is located

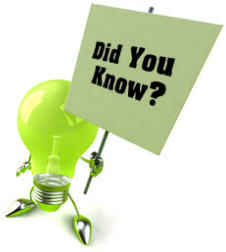


The State Office of Administrative Hearings (SOAH) GCGCD vs. Post Oak Clean Green, Inc. Update

The Administrative Law Judges (ALJ's) have reviewed the exceptions filed by the parties to the Proposal for Decision (PFD). In January, the ALJ's issued a revised PFD. GCGCD has filed an objection with TCEQ. The matter is still pending.

SOAH Docket 582-15-2498; TCEQ Docket No. 2012-0905-MSW; Application of Post Oak Clean Green, Inc. for Proposed MSW Permit No. 2378

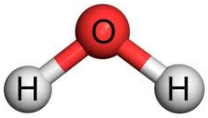
Feb. 9th	GCGCD regular board meeting, GVEC Community Rm 927 N. Hwy 46, Seguin @ 4:30 pm
Mar 1-3rd	Texas Water Conservation Association Annual Convention, Austin Sheraton Hotel at the Capitol

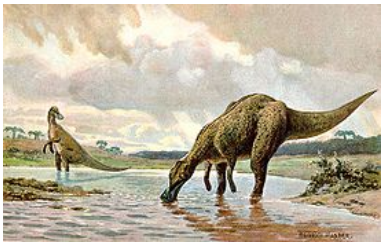


Did you know?

There is the same amount of water on Earth as there was when the Earth was formed.

The water from your faucet could contain molecules that dinosaurs drank! Huh. Source EPA





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