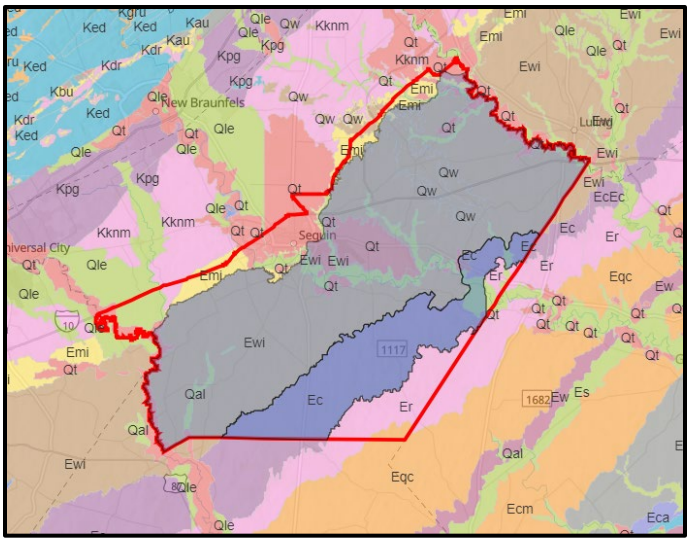



GCGCD boundary over geology units

# GCGCD NEWS


## SUMMER 2023 Newsletter

### GCGCD Web-based in-house App

GCGCD has been working with our GIS Specialist, Shawn Vickers - Kiva Consulting, to develop an exciting new tool for the District staff. With a click of a button, our new app enables us to verify well spacing requirements, identify ownership and water rights from parcel data, search for wells within the proposed area of influence, and so much more!

A major goal was to consolidate our data into one, user friendly, internal application - accessible from multiple platforms. We wanted to be able to access our data from the field and make real time changes that can be viewed and printed from the office. Because it's a web-based app, we can access a gallery of base maps and real time data such as local weather conditions. Cont. page 9

WWW.GCGCD.ORG

Visit our website for more information!

## IN THIS ISSUE



WOW - Summer sure is here – we ended the final week of Spring with triple digits and those 100+ days are sticking around! So - Apply your SPF block and keep hydrated!

The excessive heat hasn't slowed us down at the District. I'm excited to share the development of our new in-house app – making our lives run a lot smoother, the finalization of the Impact Analysis study within the District, the June 2023 water level report, some new conservation tips, and so much more!

Find some shade – or even better – some AC – and enjoy our Newsletter!

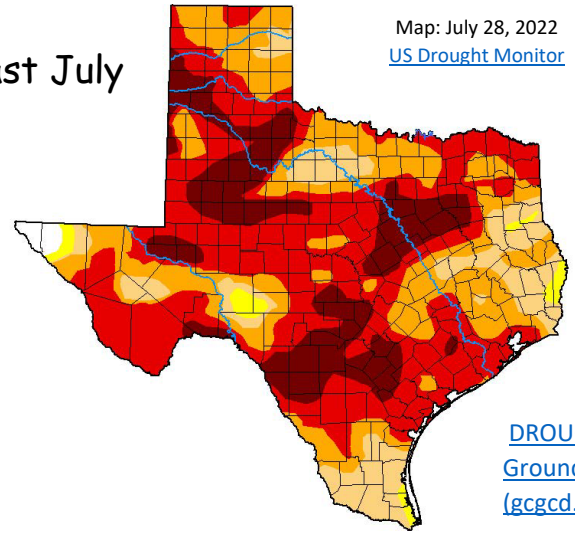


*Kelley Cochran*
*General Manager*

What a difference a year makes – What a difference a year with *some* rain makes!
But WOW, it's still HOT & DRY – Be aware of the drought conditions – Conserve Water!!

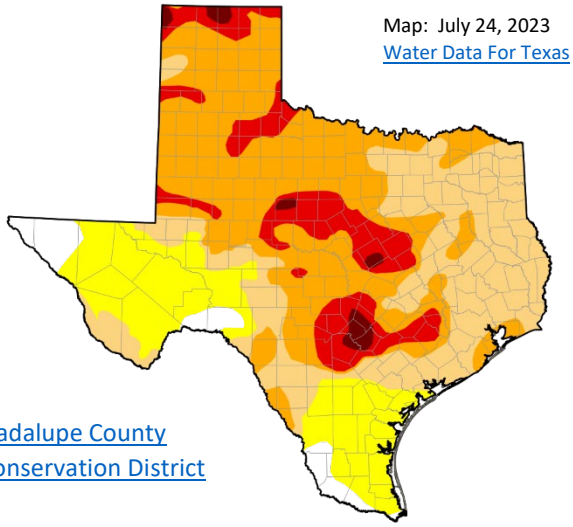
Last July

Map: July 28, 2022
US Drought Monitor



Map: July 24, 2023
Water Data For Texas

NOW



DROUGHT - Guadalupe County Groundwater Conservation District (gcgcd.org)

## WHAT'S YOUR GROUNDWATER IQ?

Answer these True/False Questions to test your Groundwater IQ

1. Most aquifers are like pockets of giant underground lakes suspended between subsurface layers.
2. The water table (upper layer of ground saturated with water) level fluctuates over time as water levels change.
3. A cone of depression is the area in a recharge zone that is washed out by heavy rains.

Answers on back page.

# Education and Outreach

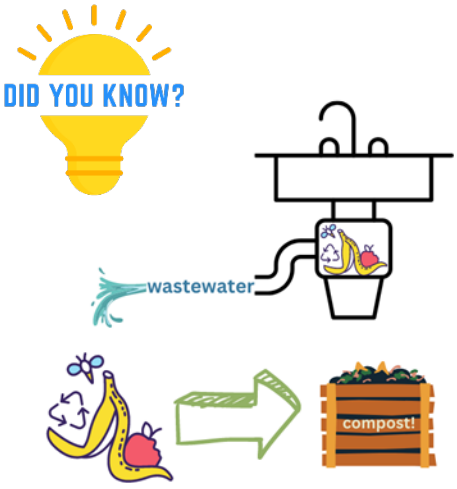

Photo courtesy of Marvel Maddox
Left to right: Seguin Sunrise Lions Club - President Kay Lynn Hawkins, GCGCD Education & Outreach Coordinating Intern - Caroline Hrncir, & Seguin Sunrise Lions Club Service Chair/GCGCD field technician - Omar Maldonado

Thank you to the Seguin Sunrise Lions Club for inviting us to share.

On July 5th, GCGCD's Education and Outreach Coordinating Intern Caroline Hrncir presented on the topic of Xeriscape Landscaping: Benefits and Comparisons as a water conservation strategy for utilizing *less thirsty* plants that are beautiful additions to your yard. For more info on how to xeriscape your yard – reach out to Caroline at caroline@gcgcd.org

Redbud tree

Lantana




*Did you know that your garbage disposal waste is bad for your septic tank?*

Your septic tank will not function to its highest efficiency if you add food waste into a system that is built for human waste, toilet paper, and water. Your garbage disposal also uses water and energy *every time* you dispose of your food waste down the drain! Instead of disrupting your septic, wasting water, or causing drain buildup, try composting your food scraps!

There are a variety of methods for at-home composting that can be cost effective and simple. The easiest version is to trench compost. This involves digging a small trench in your flower bed, garden, or yard about 6-8" deep, then adding a layer of food scraps up to 4" high. Make sure to place a marker above this spot, then after a few months, if you plant something above it, the plant will flourish! It's also good for your lawn and soil.

Source

## Pics from June field day – measuring water levels

Randy Schwenn, well owner and Bill Klemt, GCGCD hydrogeologist – June water level measuring day. Thank you, Mr. Schwenn, for participating in our monitor well program!

Kelley collecting a water sample.

Omar obtaining water quality field parameters.

## Task 2 A Completed Methodology for Allocating Impacts

You may recall from our Winter 2022-23 Newsletter, the District engaged the services of Advanced Groundwater Solutions (AGS) to develop a methodology for estimating past and future impact in the Carrizo-Wilcox Aquifer from groundwater production within the boundaries of GCGCD, using data from three public water supply (PWS) permit holders: Canyon Regional Water Authority (CRWA), Springs Hill Water Supply Corporation (SHWSC), and Schertz-Seguin Local Government Corporation (SSLGC).

Task 2A has been completed. The report uses Theis analytical model to estimate impacts from pumping wells.

After the Groundwater Availability Model (GAM) for the southern portion of the Carrizo-Wilcox has been updated by Dr. Hutchison and approved by TWDB for use at the GMA 13 level, impact analysis outside of the District (regional water level drawdowns) could be estimated.

To read the full Technical Memorandum –

Visit our Aquifer Science page on our website or click the REPORT icon

AQUIFER SCIENCE - Guadalupe County Groundwater Conservation District (gcgcd.org)

# Measurement of Water Level Decline and Achievability of the Desired Future Conditions for the Carrizo-Wilcox Aquifer within Guadalupe County

GCGCD June 2023 Water Level Report

William B. Klemt, PG

## Carrizo Water Levels

Average GCGCD Carrizo water levels changed only -0.06 feet for the period June 2022 to June 2023 in the 12 wells. These wells are either located in the outcrop or close to the outcrop. Largest water-level change (+7.4 feet) reported and included in the above average was from Well 67-34-505.

Average water levels, from June 2022 to June 2023, changed an estimated -3.38 feet in the SSLGC Area (Well 67-34-706), and in the CRWA Area, average water levels changed about +0.83 feet (Wells 67-34-302, 67-34-505, and 67-34-612).

The Carrizo long-term (2013 - June 2023) water-level declines in the SSLGC and CRWA areas of Guadalupe County are about 26 feet (-2.5 feet/year) and 33 feet (-3.1 feet/year), respectively. Six (6) monitor wells, located near the middle of the Carrizo outcrop, averaged about - 0.32 feet/year.

## Wilcox Water Levels

The June 2022 - June 2023 Wilcox water-level measurements indicate an average change of + 0.08 feet for 9 wells. Not included in the water-level change calculation were the following wells:

1) Ulrich Well 67-25-910, +15.7 feet;
2) Belz Well 68-40-401 was not included for lack of a static water level measurement; and
3) CRWA, 67-34-5, -38.5 feet

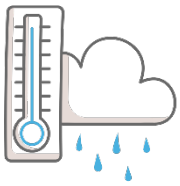
## Carrizo Outcrop Monitor Wells

The average long-term water-level decline (2013 - June 2023) for MWCZ 7 and 8 is on the order of -11 feet (-1.04 feet/year) each which is the result of pumping in the SWN 67-34 area. The average change for the remaining 4 monitor wells is +0.4 feet (+0.038/year). The overall average change for the 6 monitor wells, -3.4 feet (0.32 feet/year).

It is anticipated Carrizo water-level declines will increase moderately within the District due to the addition of the proposed SSLGC Carrizo Well Field in the vicinity of Well 67-34-706. This will increase present-day water level declines in monitor wells MWCZ-1A, 1B, 7 and 8. However, the increased rate of decline will slowly decrease with time as water levels approach a new equilibrium.

READ ME

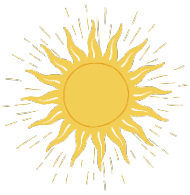
William B. Klemt, P.G.

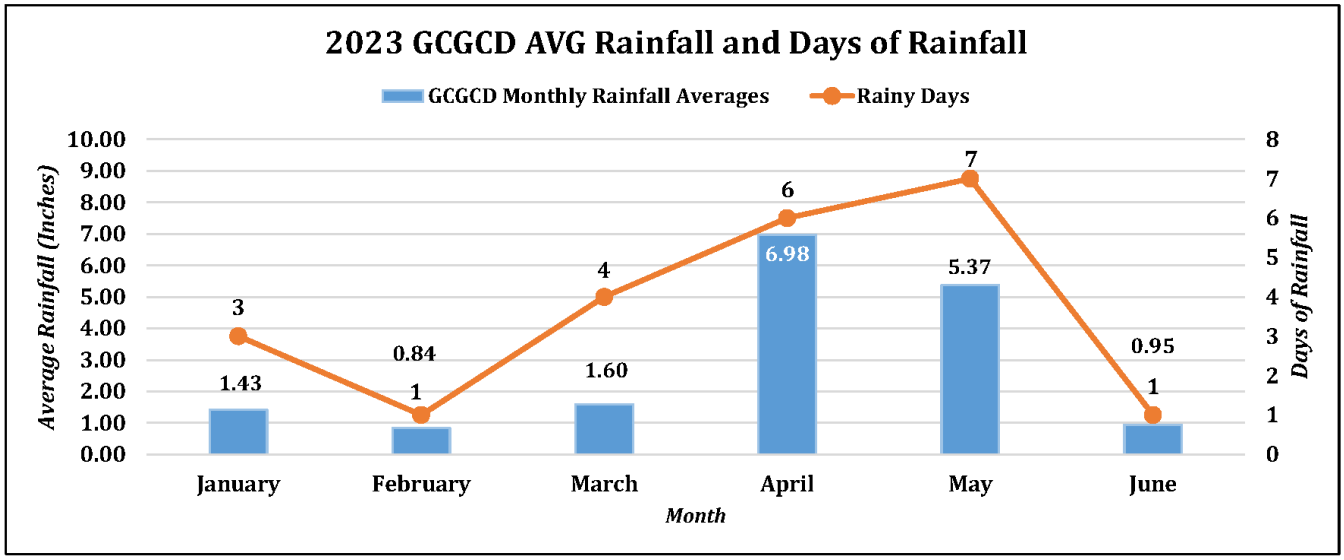


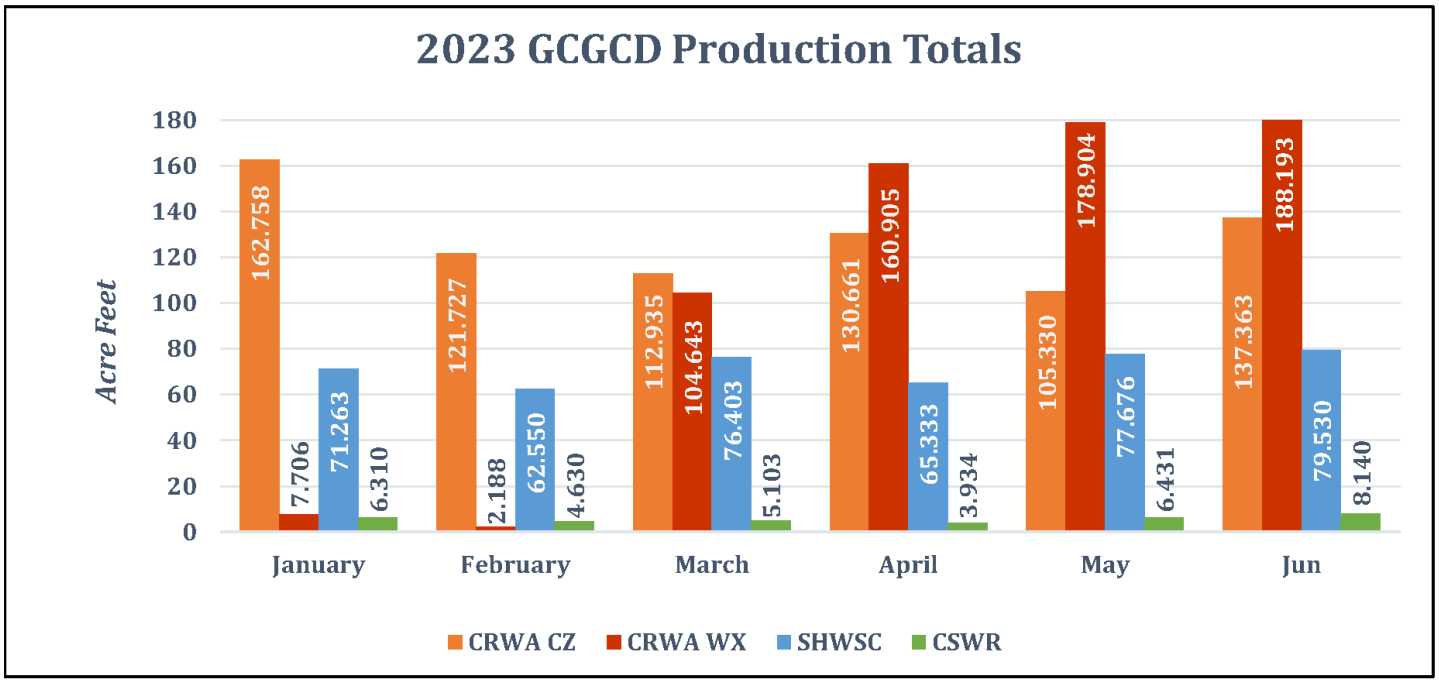
## GCGCD Average Monthly Rainfall (in.) for 2023

| TWDB 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 | 5.33 | **0.11** | | | | | | | **13.99** |
| Diamond Half Ranch | 1.91 | 1.27 | 2.88 | 13.95 | 8.62 | **1.26** | | | | | | | **29.89** |
| Grones Ranch | 1.94 | 0.96 | 1.61 | 6.27 | 5.27 | **1.00** | | | | | | | **17.05** |
| Jones Ranch ★ | 1.73 | 1.51 | 1.90 | 12.08 | 7.63 | **2.03** | | | | | | | **26.88** |
| Randolph Auxiliary* | 1.71 | 0.65 | 0.91 | 4.01 | 1.61 | **0.57** | | | | | | | **9.46** |
| SHWSC Office | 1.50 | 0.79 | 1.34 | 4.29 | 3.83 | **0.95** | | | | | | | **12.70** |
| SHWSC Plant | 2.05 | 1.00 | 1.60 | 4.99 | 5.37 | **0.82** | | | | | | | **15.83** |
| Strey Ranch | 0.27 | 0.34 | 0.60 | 4.13 | 5.26 | **0.86** | | | | | | | **11.46** |
| | | | | | | | | | | | | | Total Avg |
| Monthly Avg | 1.43 | 0.84 | 1.60 | 6.98 | 5.37 | **0.95** | | | | | | | **17.16** |

* Maintained by the NWS/FAA








## WHAT'S IN YOUR WELLHOUSE?

DON'T USE YOUR WELLHOUSE AS A STORAGE SHED.


NEVER store products such as fertilizers, pesticides, chemicals, paints, or fuel in your wellhouse!

WELLHOUSES ARE DESIGNED TO PROTECT YOUR WATER WELL & EQUIPMENT.

Example of a clean wellhouse – free of harmful contaminates. Stay safe & Protect your water source!

Texas Sunset Advisory Commission
Sunset Documents for 2022-2023 Review Cycle,
88th Legislative Session

Staff Report with Final Results (June 2023)

## GMA 13 News

Groundwater Availability Model (GAM) for the Southern Portion of the Queen City, Sparta, and Carrizo-Wilcox aquifers has been approved by the TWDB. Dr. Bill Hutchison, consultant for GMA 13, is working on an updated version to address comments submitted during the public comment period. Next GMA 13 meeting is scheduled for September 15, 2023.

Texas Alliance of Groundwater Districts (TAGD)


**Texas Groundwater Summit**

Texas Groundwater Summit | The Texas Alliance of Groundwater Districts

**August 29th – August 31st** Hyatt Regency Hill Country Resort

*WHO'S Going to be there?*

- Groundwater Conservation Districts staff & board members
- Well drillers and well technology companies
- Water providers and planners
- Groundwater stakeholders, hydrogeologists, attorneys, engineers, groundwater technology experts, consultants, students, and anyone interested in the future of groundwater!

*SNEAK PEEK*

Day 1 – Tuesday, August 29

4:00 – 5:30 PM **Correlative Rights or Correlative Wrongs** (panel discussion)
Moderator: Robert Mace, Executive Director, The Meadows Center for Water & the Environment
James Beach, Principal, Advanced Groundwater Solutions, LLC
Britney Britten, General Manager, Panhandle GCD
Kelley Cochran, General Manager, Guadalupe County GCD
Kristen Fancher, Attorney, Fancher Legal, PLLC

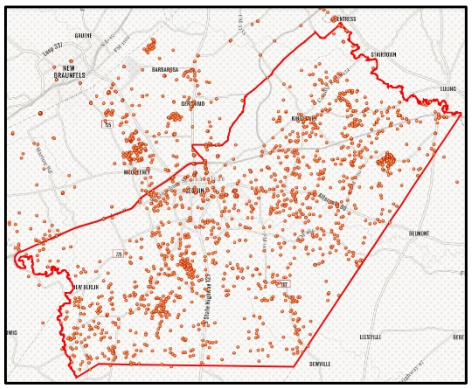
KIVA CONSULTING

*Making us more efficient!*

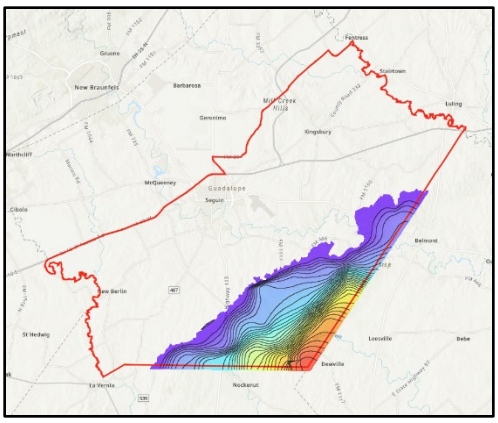
**GCGCD web-app development – continued from cover…**

Additional benefits include:

- Accessibility: Web-based applications can be accessed from any device (phone, tablet, etc.) with an internet connection
- Cross-platform compatibility - Web-based applications are designed to work on multiple platforms (Windows, MacOS, Linux, etc.) without the need for platform-specific versions, while PC-based software often requires specific versions for different platforms.
- Automatic updates - Web-based applications can be updated centrally, without the need for manual updates on each device, making it easier to keep the application up-to-date and secure.
- Scalability - Web-based applications can be easily scaled to accommodate more users or data as the need grows, whereas PC-based software may have limitations in terms of performance and scalability.
- Cost-effective - Web-based applications typically require lower upfront costs, as there is no need to purchase licenses or hardware, and maintenance and support costs can be lower compared to PC-based software.
- Collaborative: Web-based applications are designed to be used by multiple users simultaneously, making them ideal for collaboration and teamwork, whereas PC-based software may require additional setup to enable collaboration.
- Data security: Web-based applications are often more secure as data is stored in the cloud, and providers can implement additional security measures such as encryption, backup and recovery, and access control. PC-based software may be vulnerable to physical theft, malware, and other security risks.



State well logs plotted – GCGCD boundary in red.



GCGCD Saturated Thickness Model with contours

## ***UPCOMING EVENTS –***

August 3rd Region L – virtual Region L Texas | South Central Texas Regional Water Planning Group
August 10th GCGCD Board Meeting AGENDAS & NOTICES - Guadalupe County Groundwater (gcgcd.org)
Aug. 29 – 31 TAGD Texas Groundwater Summit | The Texas Alliance of Groundwater Districts
Sept. 4th Labor Day – GCGCD office will be closed.
Sept. 14th GCGCD Board Meeting AGENDAS & NOTICES - Guadalupe County Groundwater (gcgcd.org)
Sept. 15th GMA 13 Groundwater Management Area 13 | Texas Water Development Board

GCGCD Board of Directors & Staff

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

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

**Caroline Hrncir – Education/Outreach**
caroline@gcgcd.org

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

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

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

**District 5 – Mark Gustafson - Secretary**
mark_gustafson@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

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


## WHAT'S YOUR GROUNDWATER IQ?

Answers from page 2

### So - What's *YOUR* Groundwater IQ?

Did you know the answers to these questions?

1. Most aquifers are like pockets of giant underground lakes suspended between subsurface layers.

   False. Aquifers are made up of permeable (water-bearing) materials such as rock, gravel, sand, and silt.

2. The water table (upper layer of ground saturated with water) level fluctuates over time as water levels change.

   True!

3. A cone of depression is the area in a recharge zone that is washed out by heavy rains.

   False. A cone of depression occurs when groundwater is pumped from a well, lowering the water table at the well (unconfined) / reduction of pressure head (confined) aquifers.

Source: USGS