



COLUSA SUBBASIN 2022 ANNUAL REPORT AND CURRENT GROUNDWATER CONDITIONS

Spring 2023

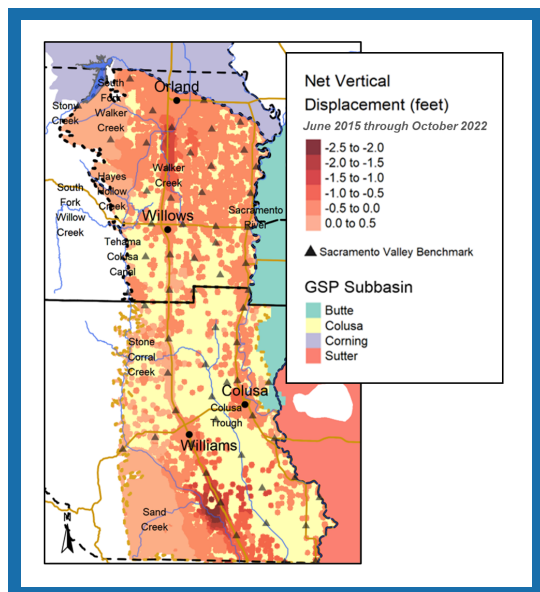
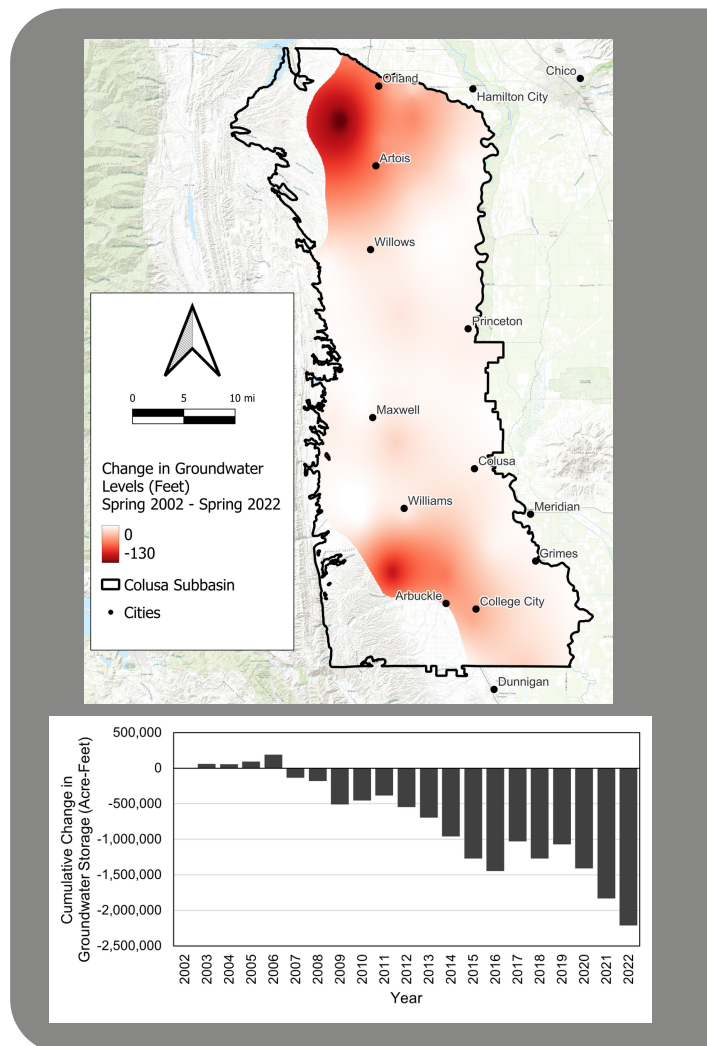
Current Groundwater Conditions

GROUNDWATER LEVELS

- Groundwater levels in the Colusa Subbasin have generally dropped over the last 20 years, especially in northern areas around Orland and Artois and southern areas around Arbuckle and College City.
- Although declines escalated in many areas in 2020-2022 due to drought, groundwater levels have recovered to some extent during winter 2022-2023.

GROUNDWATER STORAGE

- As groundwater levels change, so too does the volume of groundwater stored in the Subbasin.
- While groundwater storage can increase in wet years, such as 2017 and 2019, drought conditions and changing water supply and demand have led to an overall net decline in groundwater storage over the past 20 years.
- The cumulative change in groundwater storage from 2002-2022 was approximately -2.2 million acre-feet.



SUBSIDENCE

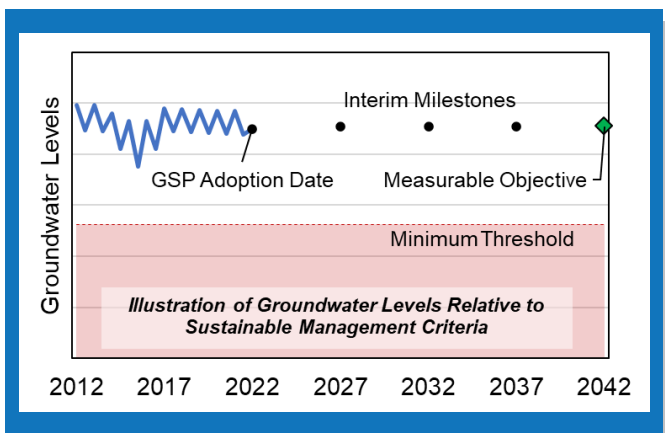
- Between 2015 and 2022, land subsidence has occurred in various areas around the Colusa Subbasin, especially near Arbuckle and College City (up to -2.5 feet of vertical displacement) and between Orland and Artois (up to -1.6 feet of vertical displacement).
- Land subsidence rates have generally increased since 2020. It is unclear how much of this subsidence is permanent.

Sustainable Groundwater Management Efforts

WHAT IS THE COLUSA SUBBASIN GROUNDWATER SUSTAINABILITY PLAN (GSP)?

The Colusa Subbasin GSP is a comprehensive, dynamic plan that is guiding sustainable groundwater management efforts in the Colusa Subbasin from 2022-2042. The goals of the GSP are to maintain locally-managed sustainable groundwater resources to preserve and enhance the economic viability, social well-being, and culture of all who use groundwater, while also avoiding undesirable results to all users.

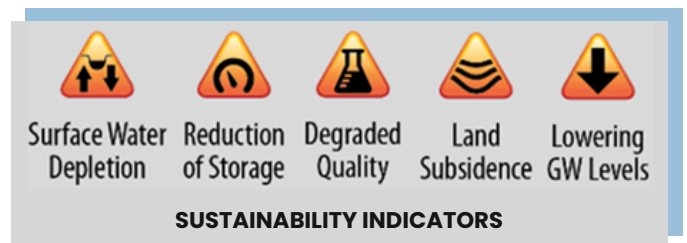
The initial GSP was developed by the Colusa Groundwater Authority (CGA) and the Glenn Groundwater Authority (GGA) through an extensive public engagement process between 2016-2022. Maintaining groundwater sustainability requires ongoing cooperation and partnership between all who manage, use, and benefit from groundwater in the Colusa Subbasin. Groundwater management must also be adaptive. As conditions change and we learn more, the GSP will be updated.



We are **monitoring** conditions through the GSP monitoring networks. The networks are made up of representative monitoring sites (RMS), including monitoring wells and subsidence benchmarks, that track conditions in the Colusa Subbasin relative to each Sustainability Indicator. RMS and SMC are selected throughout the Colusa Subbasin to represent the diverse characteristics of the Subbasin and to track progress toward maintaining and achieving sustainable conditions.

HOW ARE WE MEASURING AND MONITORING SUSTAINABILITY IN THE COLUSA SUBBASIN?

We are **measuring** conditions relative to Sustainable Management Criteria (SMC) defined in the GSP. SMC are the metrics that describe groundwater conditions relative to the five applicable Sustainability Indicators in the Colusa Subbasin:



SMC that are defined for each Sustainability Indicator include:

- **Minimum Threshold (MT):** A value that, when exceeded, represents undesirable results (significant, unreasonable, and adverse conditions). Through GSP implementation, we aim to avoid MTs.
- **Measurable Objective (MO):** A value that represents desired, sustainable conditions. We aim to maintain or achieve MOs by 2042.
- **Interim Milestones (IM):** Values that represent steps toward achieving or maintaining MOs.

Information on specific SMC in the Colusa Subbasin are provided in Chapter 5 (Table 5-1) of the GSP.

WHO DO I CONTACT FOR ADDITIONAL INFORMATION?

Please contact us if you have questions about the Colusa Subbasin GSP or need more clarification on any of these topics.

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