

Douglas AMA Management Goal Workshop



*Douglas High School
January 5, 2023*

Agenda

- I. Welcome & Introductions
- II. Informational Presentations
 - a) Overview of Hydrology in the Douglas Groundwater Basin | *Ryan Mitchell* – Chief Hydrologist
 - b) Overview of AMA Components & Requirements | *Natalie Mast* – AMA Director
 - i. Regulatory Requirements
 - ii. Management Goals
- III. Discussion
- IV. Closing

Today's meeting is being recorded. The recording will be posted on ADWR's website within a few days.



The content of today's presentation and any answers to questions are provided for informational purposes and for ADWR to receive public feedback only. This meeting is not intended to provide comprehensive guidance and is not intended to serve as legal advice. If you have legal questions about your specific circumstances, you should consult with an attorney.

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Meeting Logistics

- Please hold any questions until the end.
 - Specific questions about individual circumstances should be addressed separately via phone/email.
- Please be respectful to staff and to fellow attendees.
- Please speak into a microphone, so those participating virtually can hear.
- Today's meeting will end at 6pm. We request that each person limit themselves to one or two questions/comments to give everyone who wishes the opportunity to speak.



Information Available Online

- **Douglas AMA Webpage**
 - <https://new.azwater.gov/ama/douglas-ama>
 - Includes general information and links to application forms
- **Hydrologic Information**
 - Land Subsidence: <https://new.azwater.gov/hydrology/e-library>
 - Statewide Groundwater Level Changes: “ADWR Open-File Report Number 19” - https://new.azwater.gov/sites/default/files/WLCR2019_Final.pdf
 - Water Resource Characteristics: “Arizona Water Atlas Volume 3, Southeastern Arizona Planning Area” - <https://prism.lib.asu.edu/items/49256>
- **General Information about AMAs and existing AMA Management Plans**
 - <https://new.azwater.gov/ama>
 - <https://new.azwater.gov/ama/management-plans>

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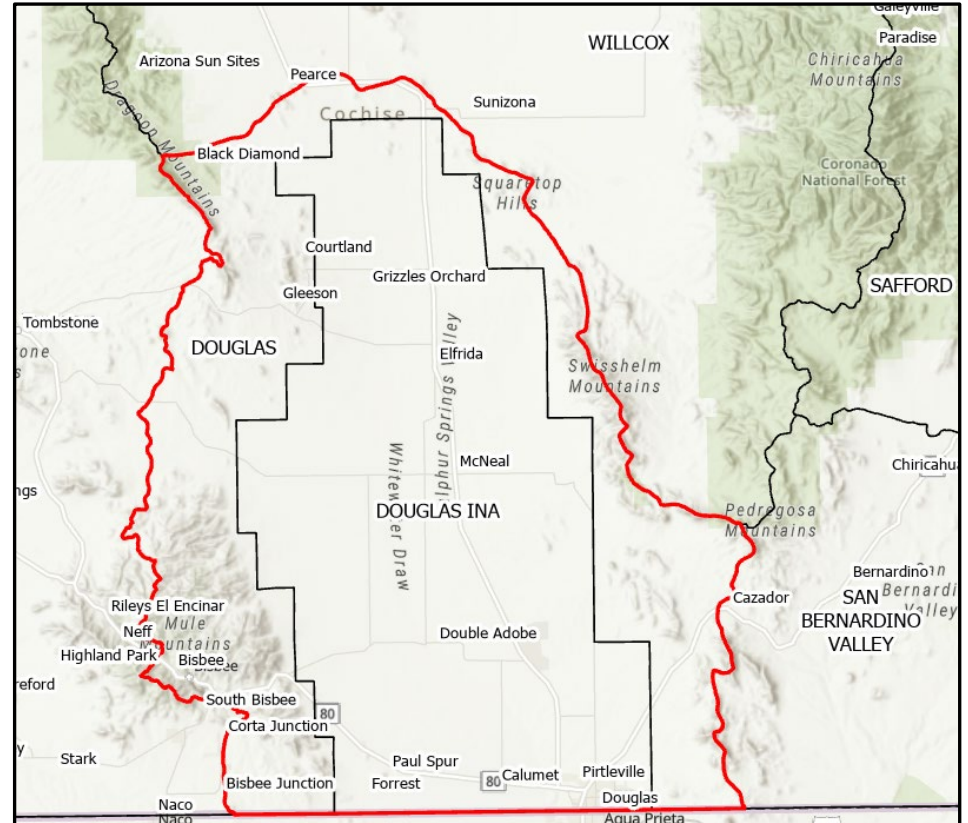
OVERVIEW OF HYDROLOGY IN THE DOUGLAS GROUNDWATER BASIN

*Ryan Mitchell RG, CPG, Chief Hydrologist / Assistant Director
Arizona Department of Water Resources*

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Hydrology Agenda

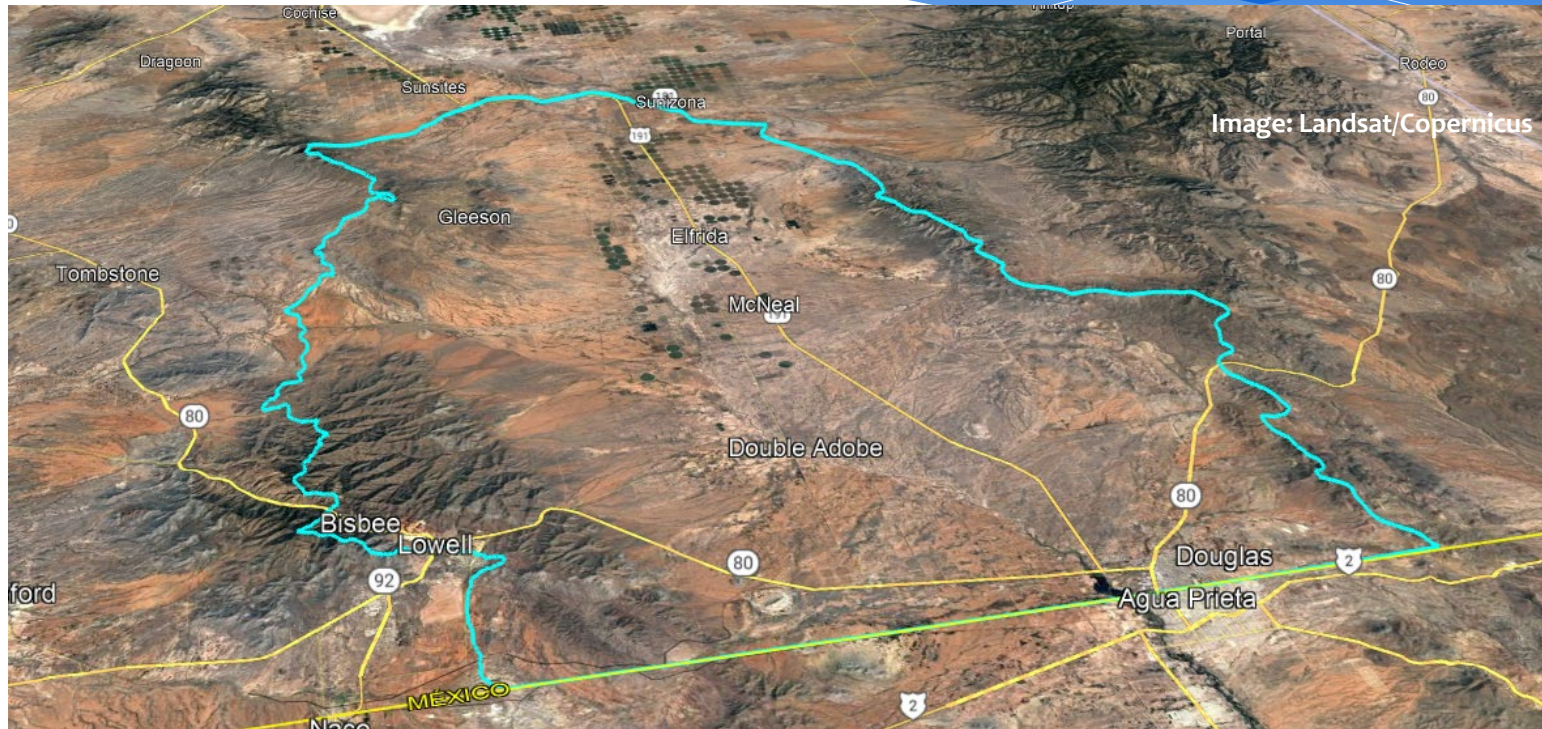
- Regional Overview
- Douglas Basin Aquifer System (Basin & Range)
- Existing Data Summary
 - Water Level Trends
 - Land Subsidence
- Data Needs



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Regional Overview



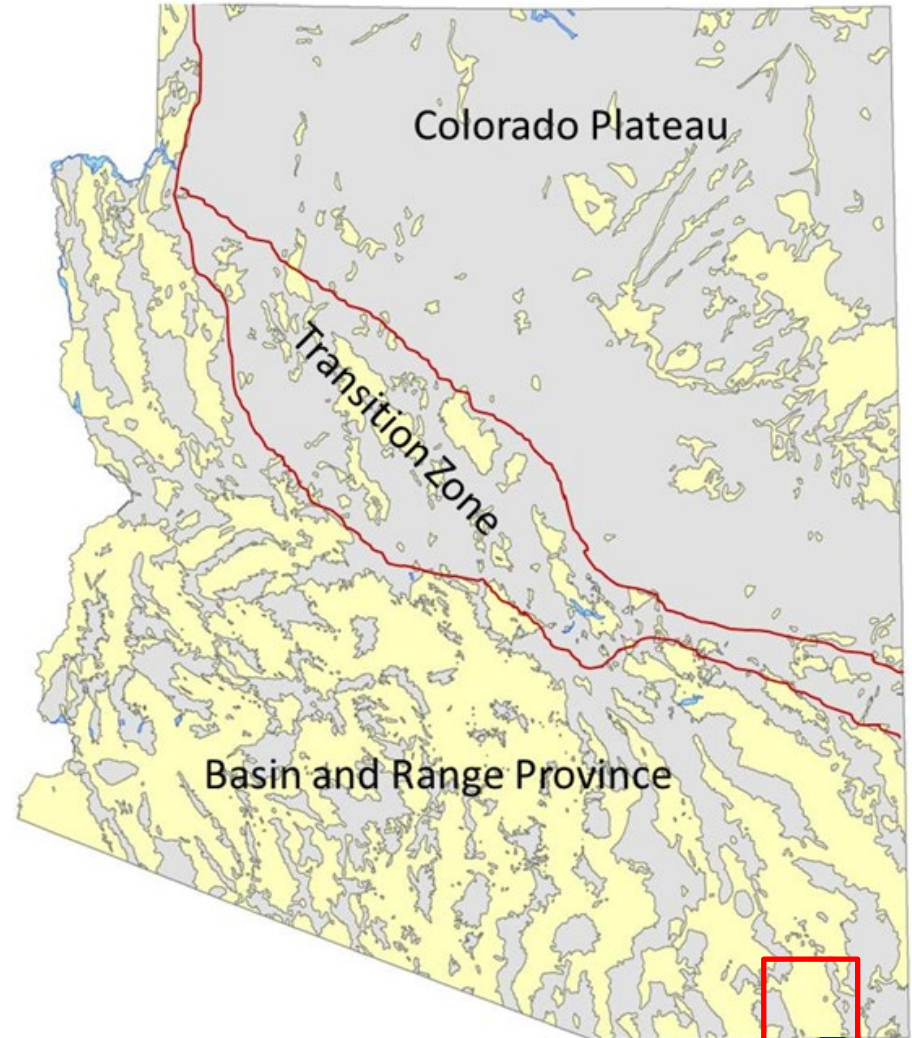
- Mountains/desert basin
- ~4,100 ft AMSL (Douglas Area) to ~7,000 ft AMSL (Dragoon Mountains)
- 1 Perennial Stream → Leslie Creek
- Arid to semi-arid
- 10-14” annual precipitation on the valley floor
- Up to 24” annual precipitation in the mountains

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Douglas Basin Aquifer System

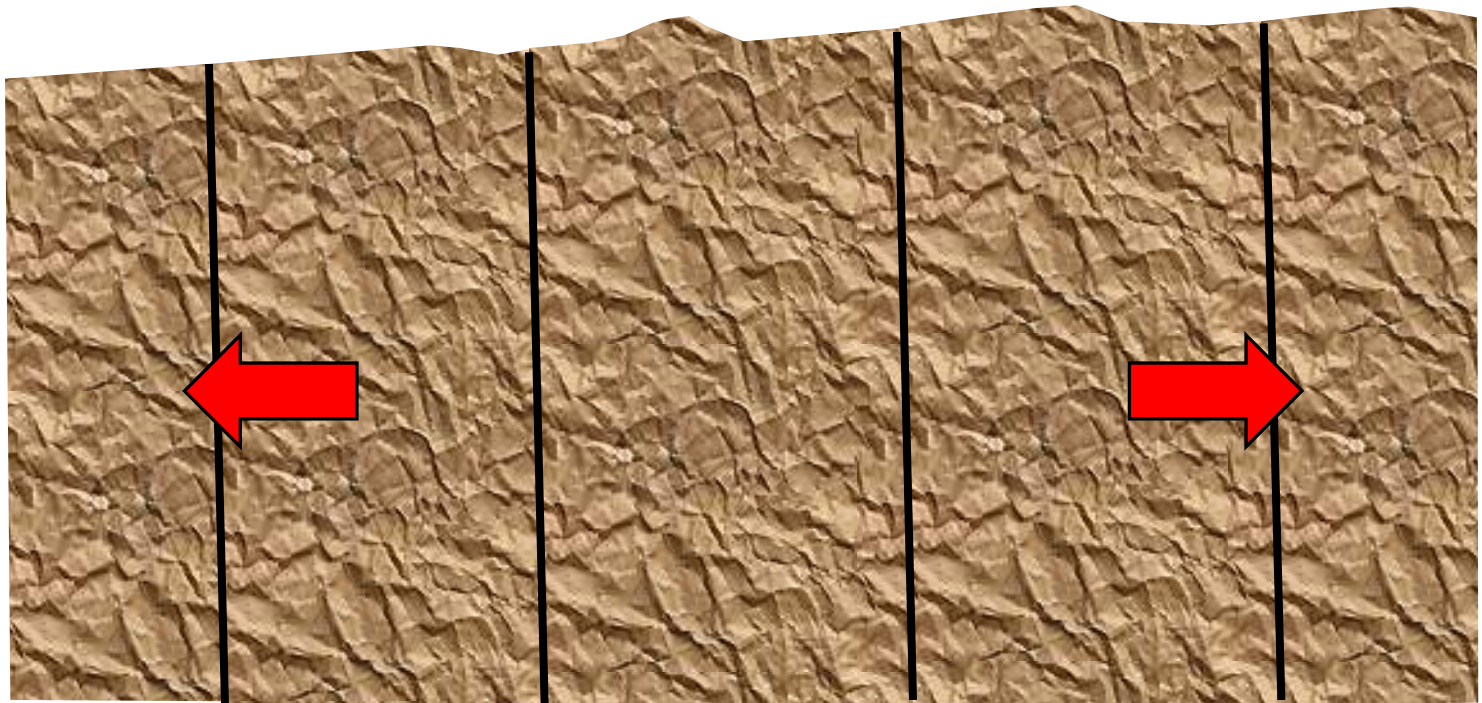
- Basin and Range Physiographic Province
- Extensional Faulting Created Deep Basins
- Erosion Over Time Deposited Sediments into Basins
- Basin Fill Aquifer System
- Alluvial aquifers (unconsolidated to semi-consolidated)
- Rapidly moving water transports and deposits coarse material (gravel and sand) with high permeability
- Silt and clay layers have low permeability (confining units)
- High spatial variability of properties within alluvial aquifers



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BASIN and RANGE AQUIFERS

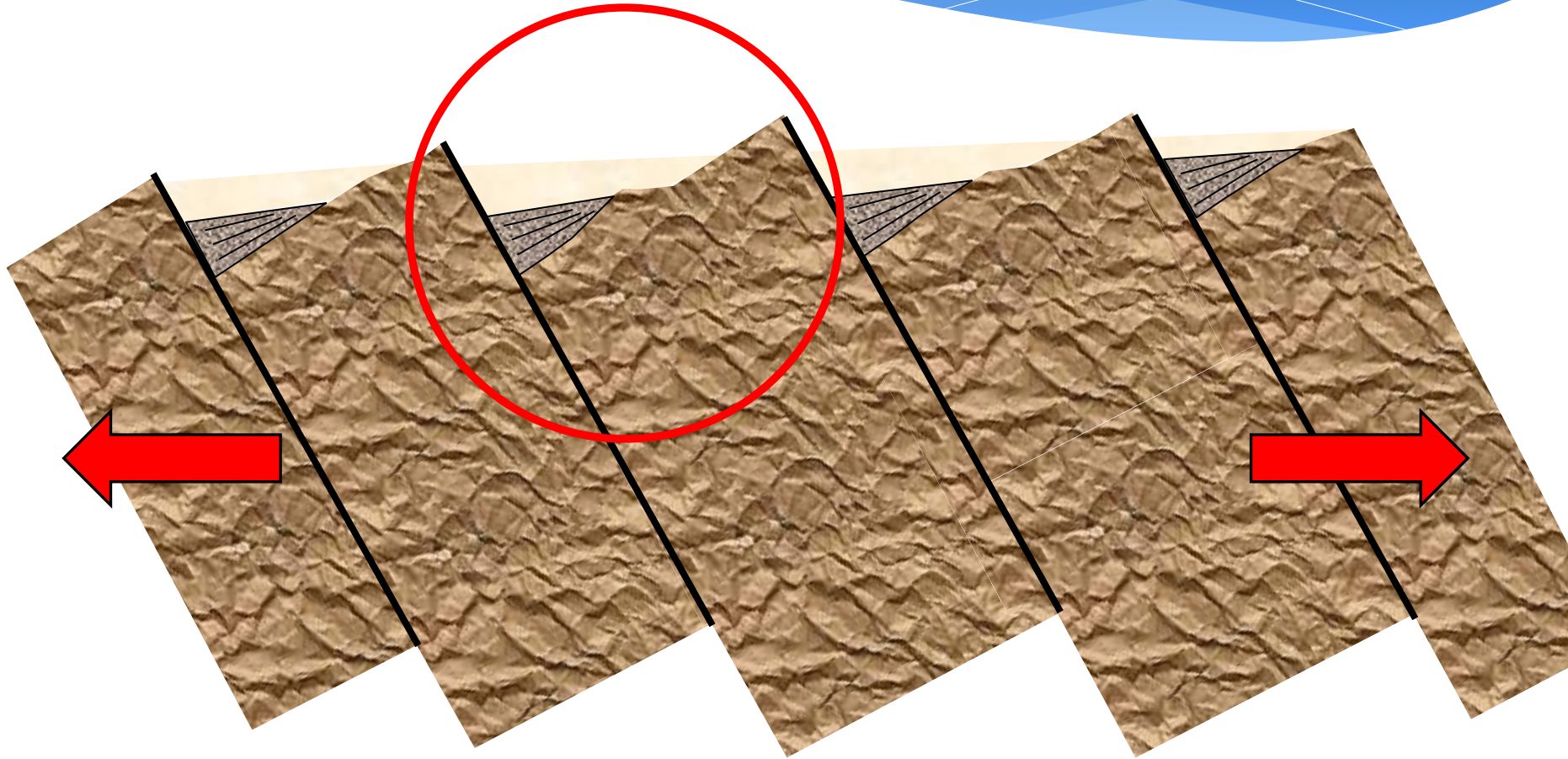


Hard Bedrock

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BASIN and RANGE AQUIFERS



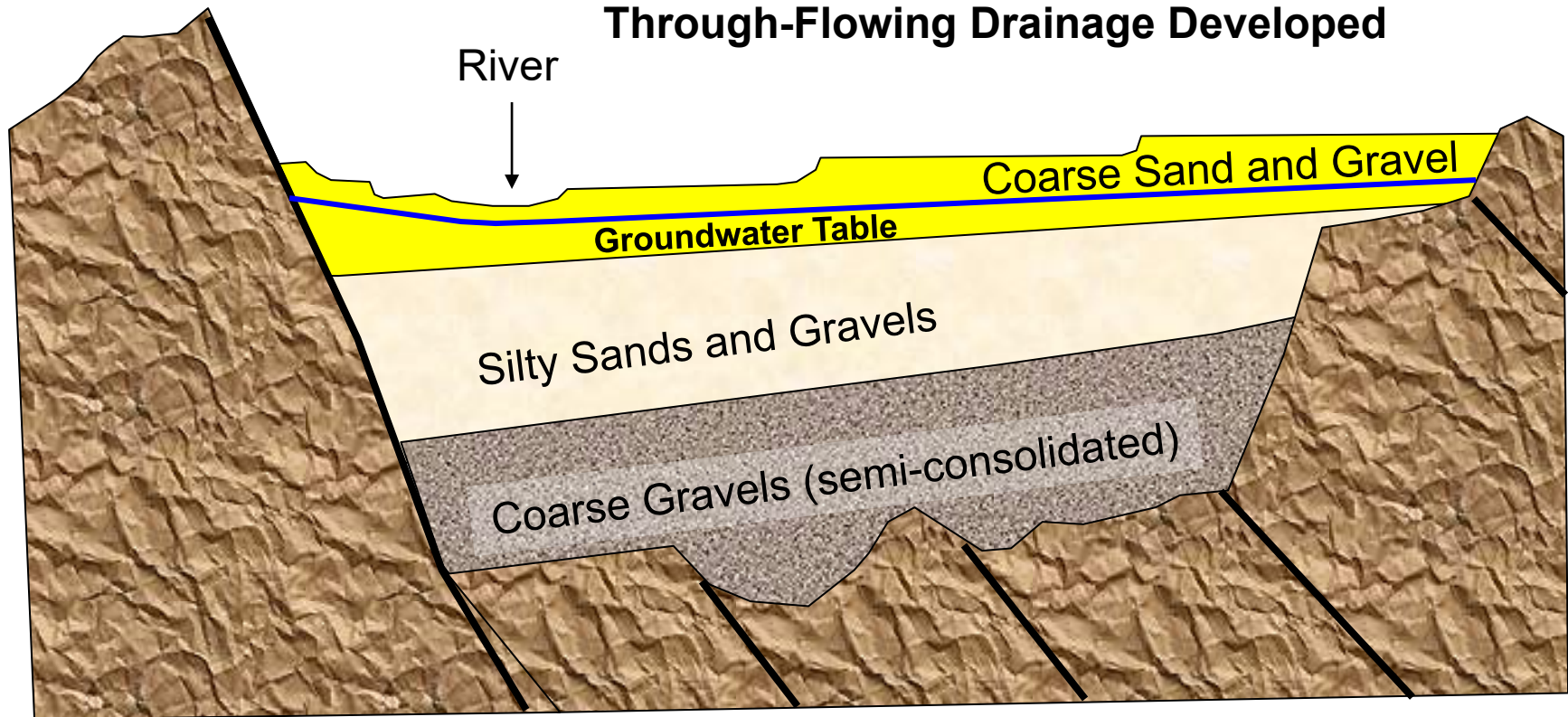
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BASIN and RANGE AQUIFERS

No Through-Flowing Drainage

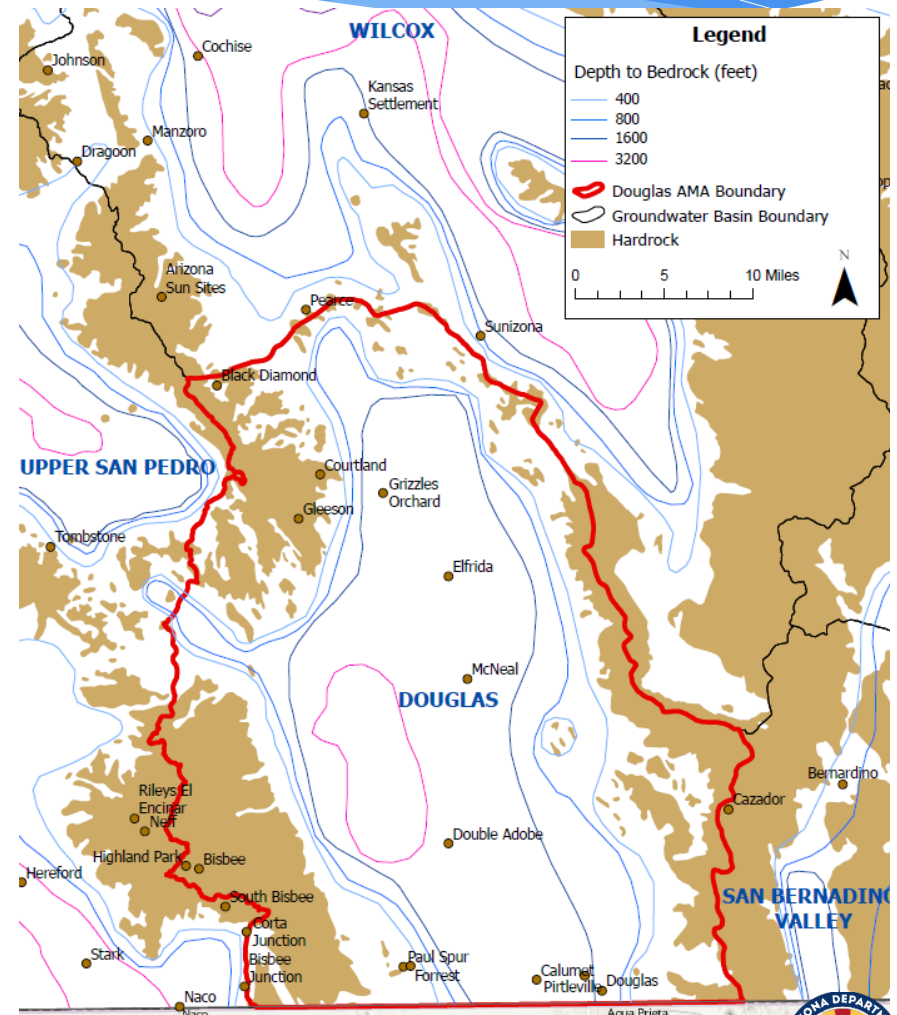
Through-Flowing Drainage Developed



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Douglas Basin Depth to Bedrock

- Steeper bedrock slope on the Eastern Side
- Depths Greater Than 3,200 feet



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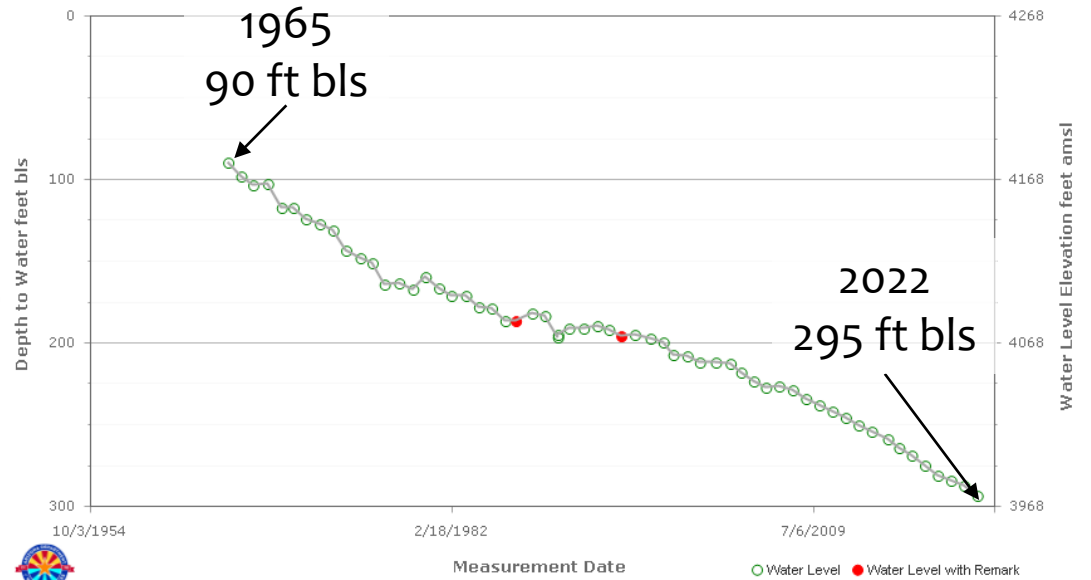
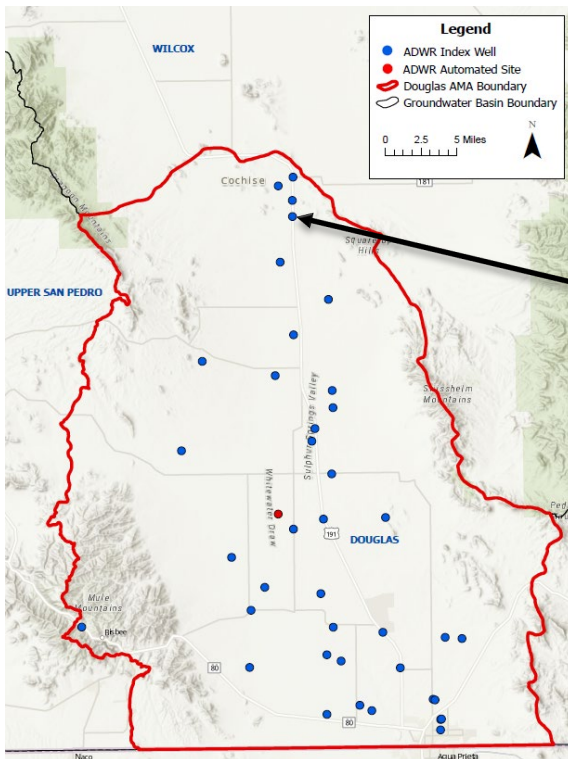
Existing Data of the Douglas Basin

- 40 Active ADWR Index Wells (Annual Groundwater Level Measurements)
- Basin Sweeps (Large scale data collection):
 - 2021 → 209 Groundwater Level Measurements
 - 2015 → 333 Groundwater Level Measurements
 - 2005 → 385 Groundwater Level Measurements
 - 1998 → 516 Groundwater Level Measurements
 - 1990 → 712 Groundwater Level Measurements
- Discharge Data
 - 118 Pumping Discharge Measurements
 - 28 Specific Capacity Values (gpm/ft)
- 2 USGS Streamflow Gages
 - White Water Draw (<https://waterdata.usgs.gov/monitoring-location/09537500/#parameterCode=00065&period=P365D>)
 - Leslie Creek (<https://waterdata.usgs.gov/monitoring-location/09537200/#parameterCode=00065&period=P365D>)
- Land Subsidence Measurements
- Douglas INA Reported Pumpage for Non-Exempt Wells (1984 - 2021)

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Example Monitoring Wells



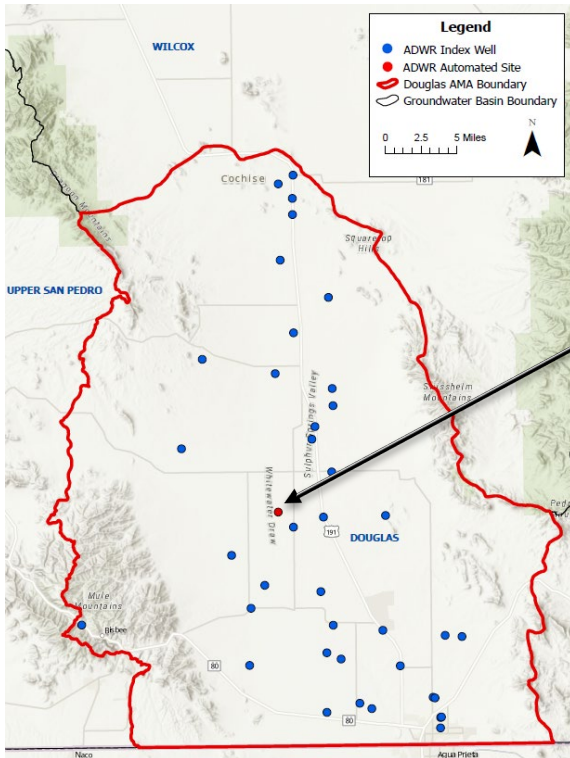
GWSI Site ID: 315042109414301

<https://azwatermaps.azwater.gov/gwsi>

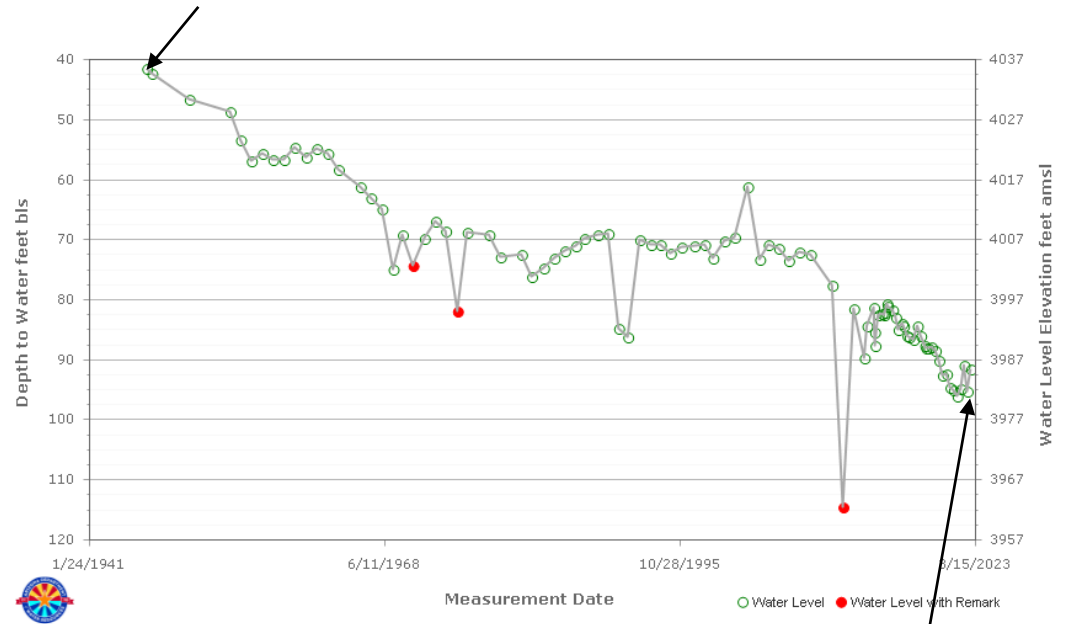
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Example Monitoring Wells



1946
40 ft bls



GWSI Site ID: 313332109430001

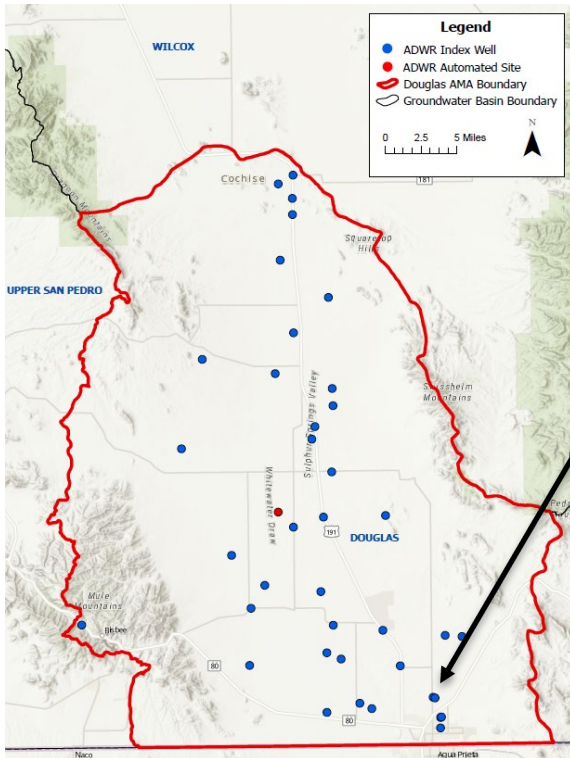
2022
91 ft bls

<https://azwatermaps.azwater.gov/gwsi>

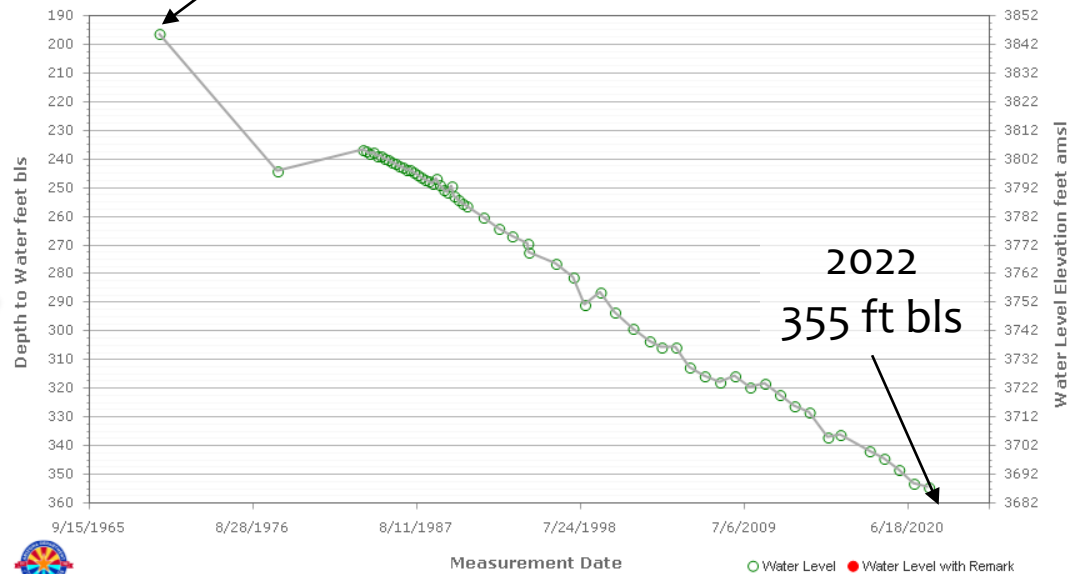
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Example Monitoring Wells



1970
195 ft bls



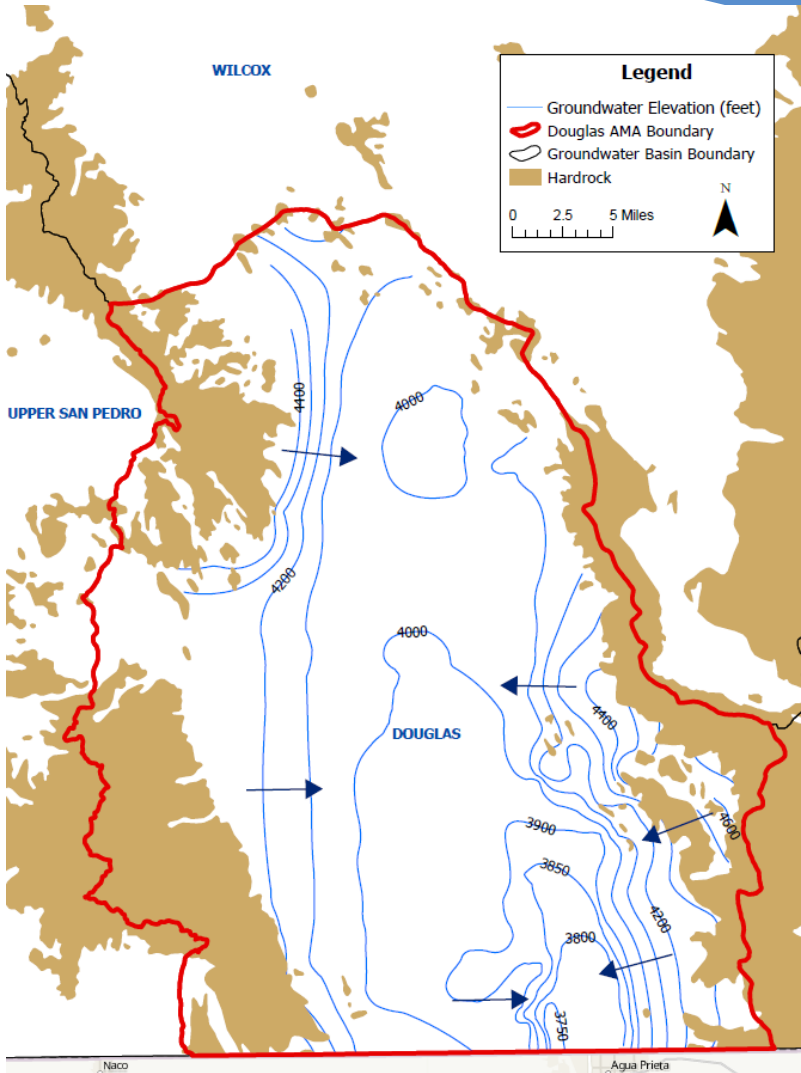
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<https://azwatermaps.azwater.gov/gwsi>

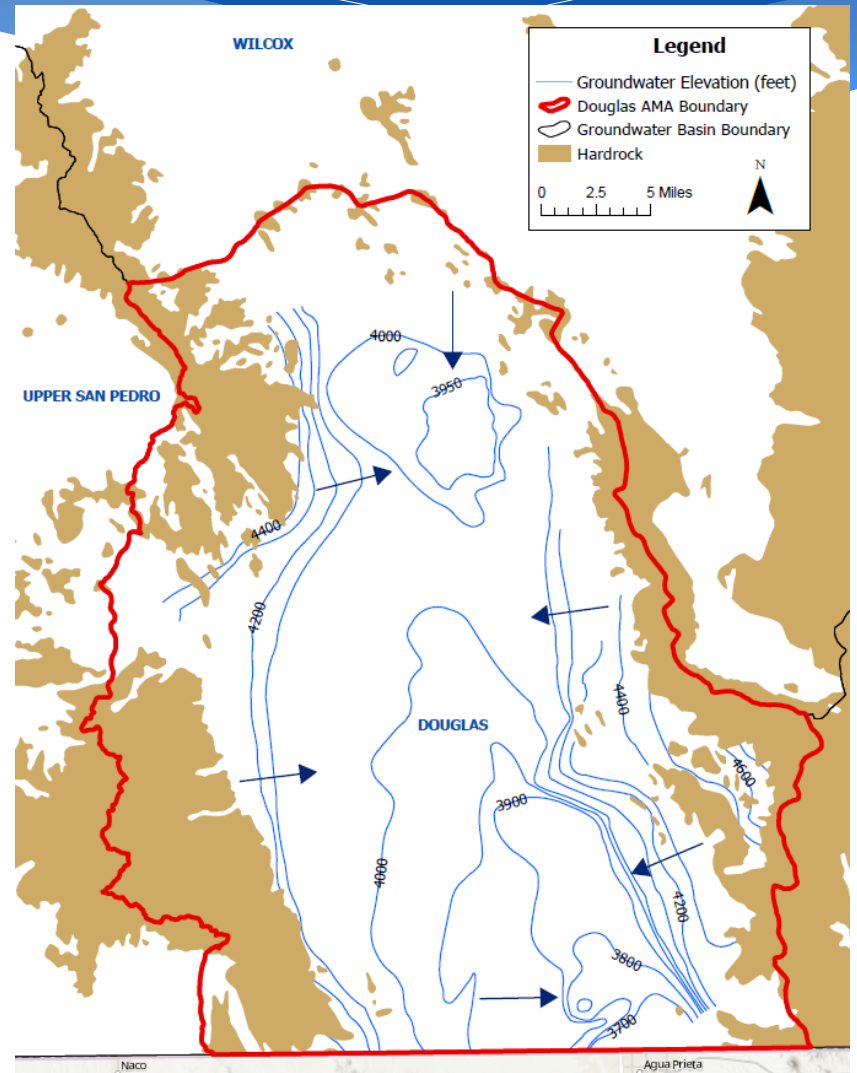
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Groundwater Contour Maps



Water Year 2005



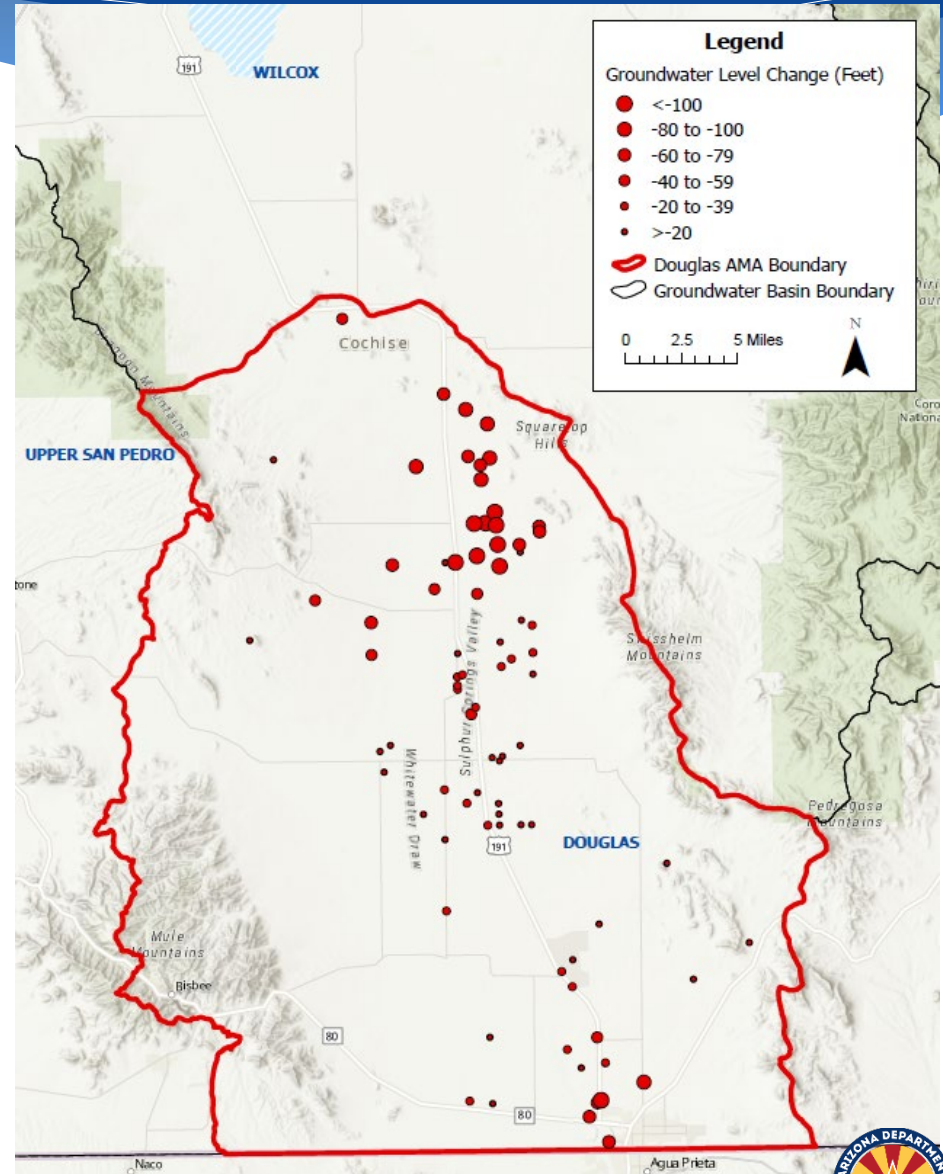
Water Year 2015

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Groundwater Level Change Data

- Water Level Change of ADWR Index Wells Between 1990 and 2021 (31 years)
- Maximum Decline: -212.9 feet
- Average Decline: -44.6 feet

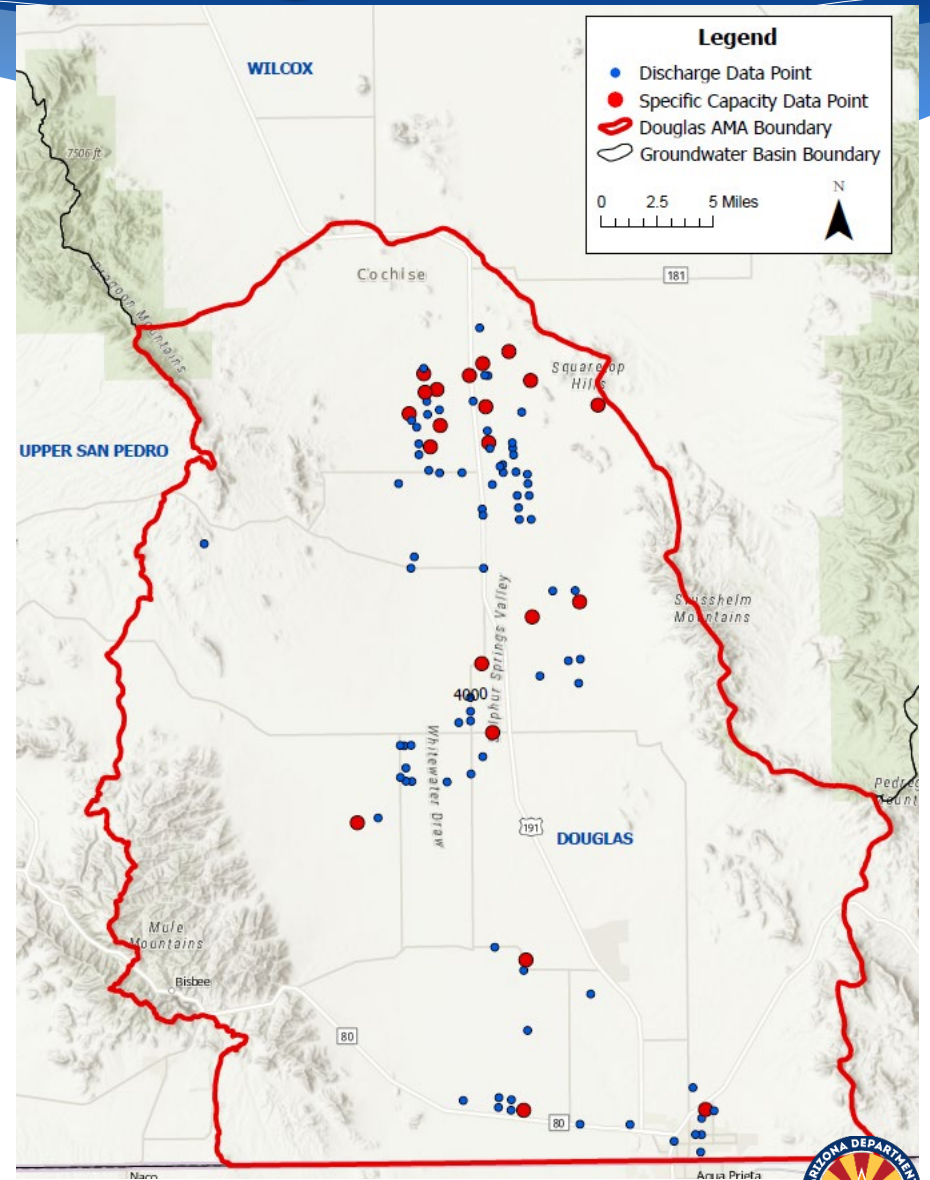


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Well Yield (Pumping) Data

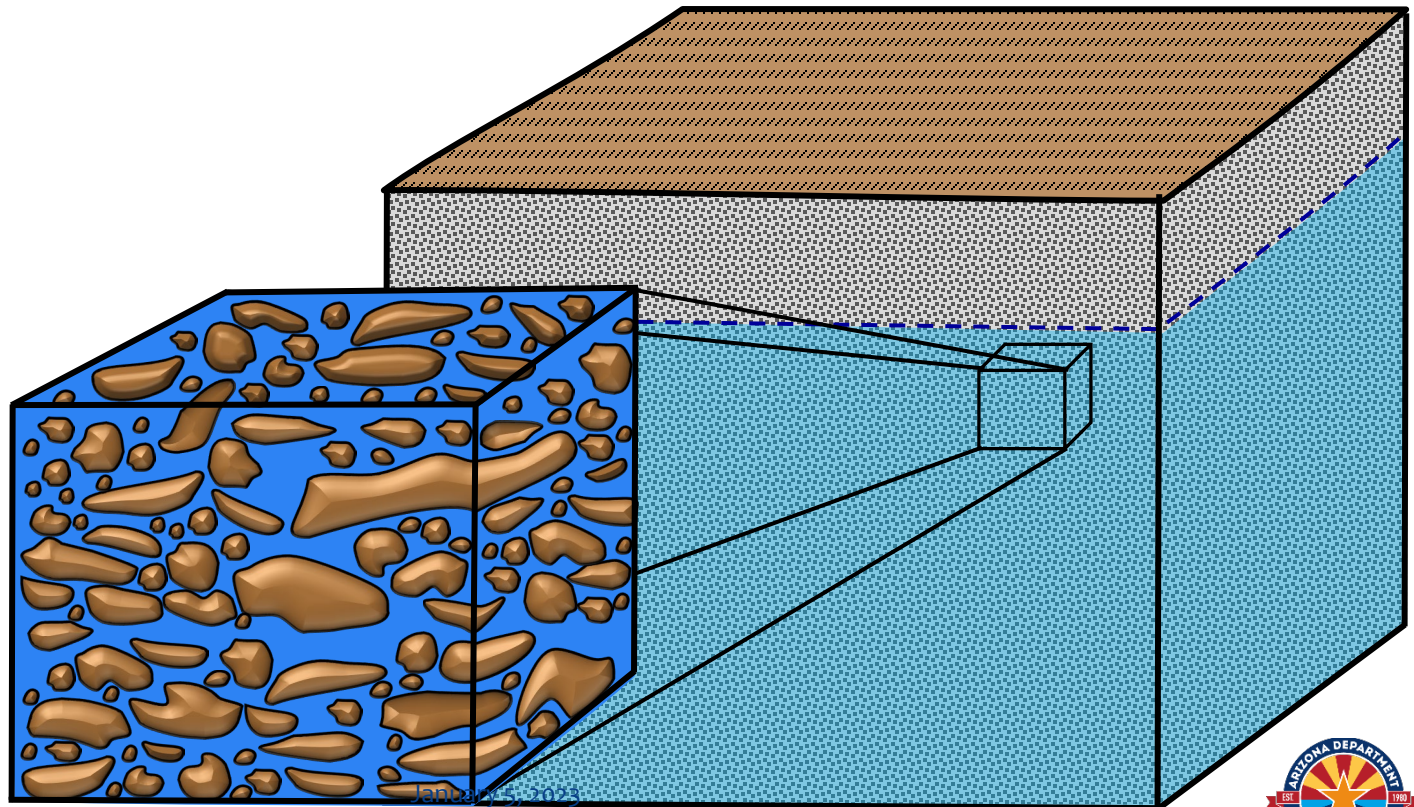
- 118 Discharge Measurements Verified by ADWR Staff
- Well Yields Range: 30 – 1600 gpm
- 28 Specific Capacity Values (gpm/ft of drawdown)
- No new discharge measurements by ADWR since 1997
- Annual Water Use is Reported per INA rules



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Land Subsidence

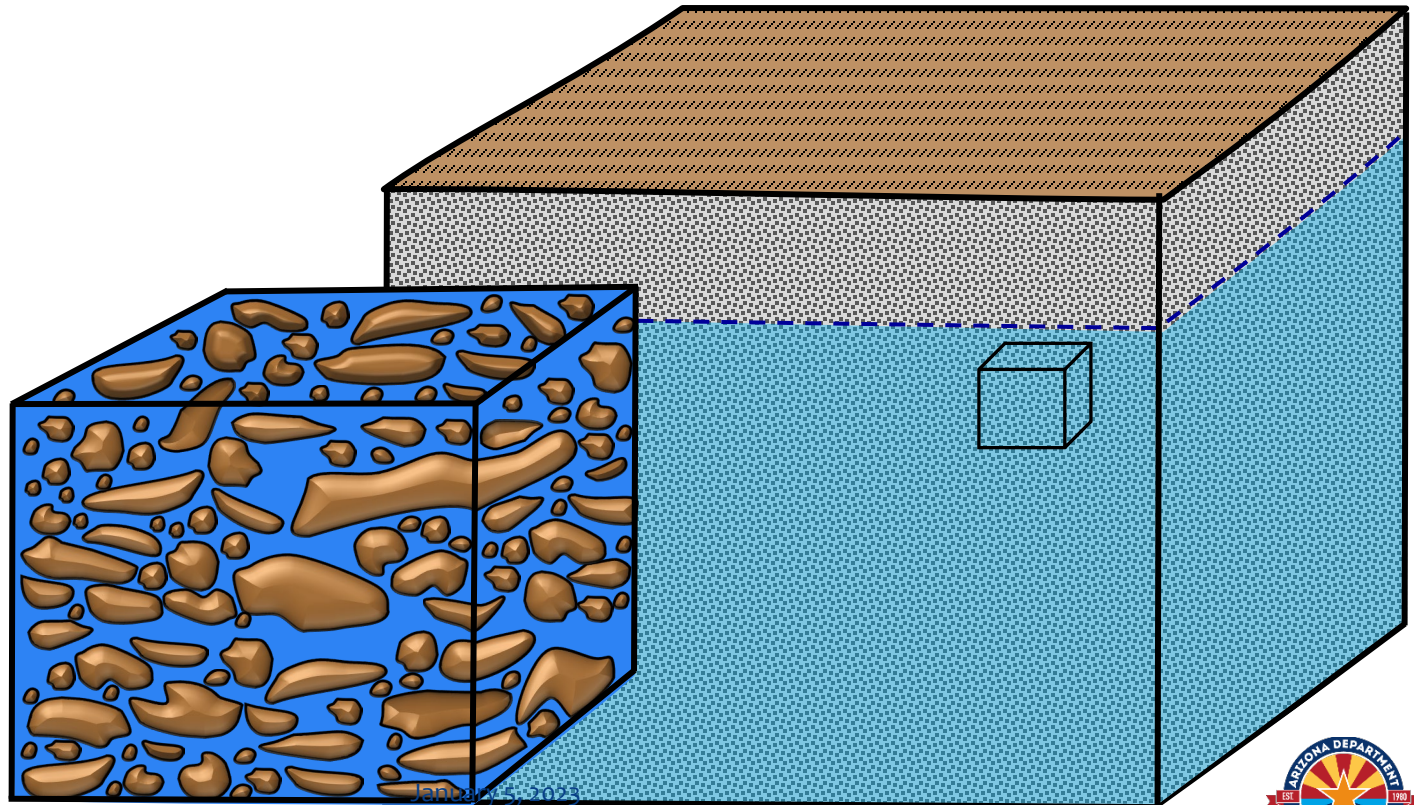
- Lowering of the Land Surface Elevation due to Aquifer Depletion



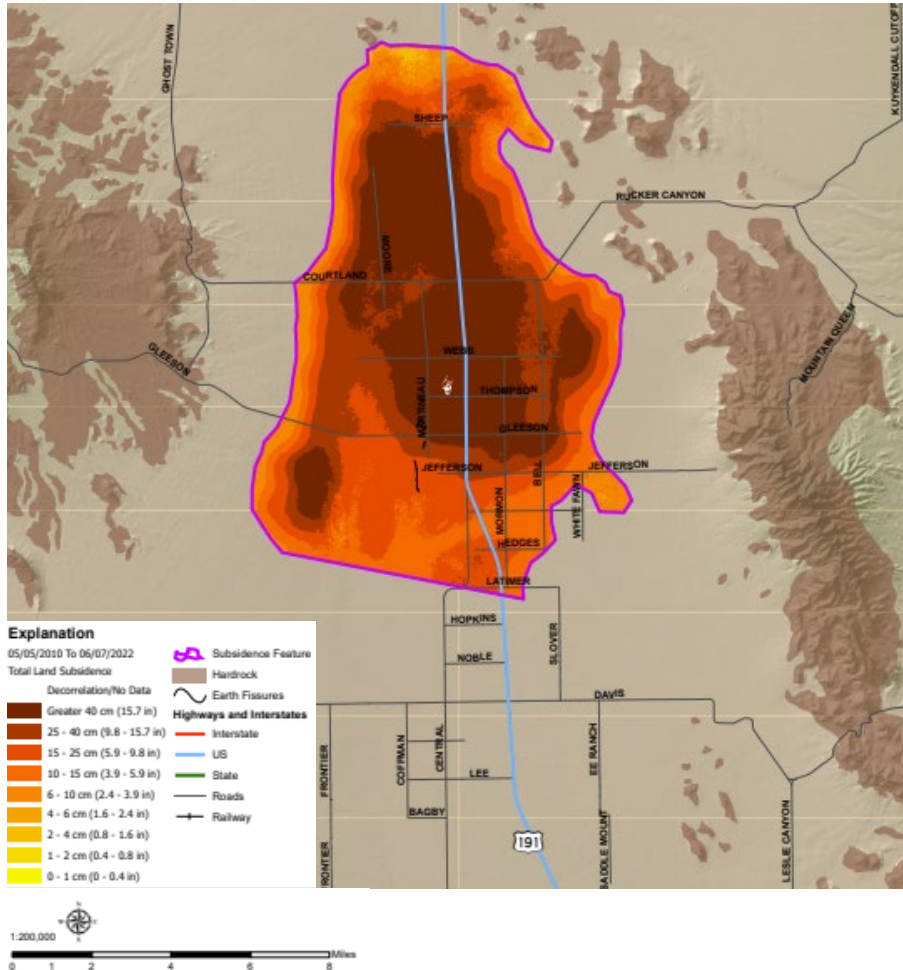
IRP02-05-2023

Land Subsidence

- Inelastic Compression of Aquifer Materials
- Recharging the Aquifer Will Not Reverse the Compression
- Permanent Loss of Aquifer Storage



Land Subsidence



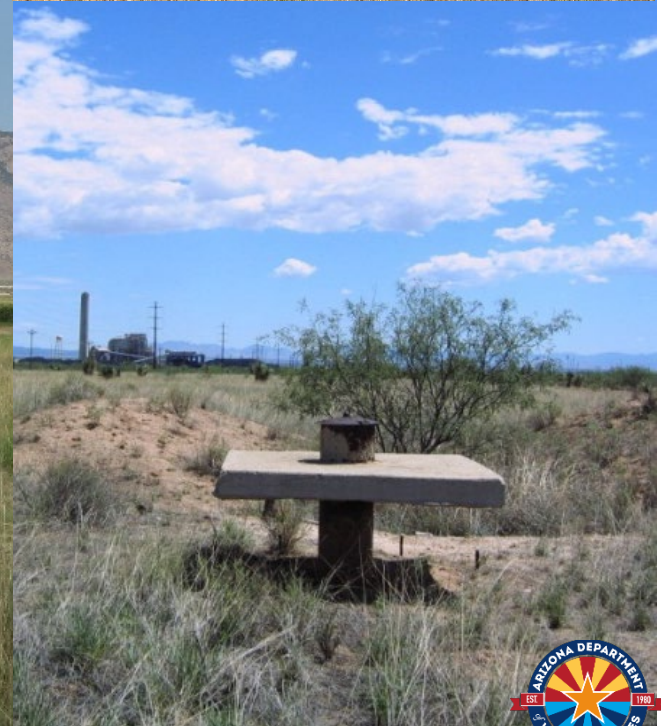
- Elfrida Area Land Subsidence Feature
- Land Subsidence 2010-2022 up to 15.7”
- Due to compaction of alluvium caused by dewatering the aquifer

<https://new.azwater.gov/hydrology/field-services/land-subsidence-arizona>

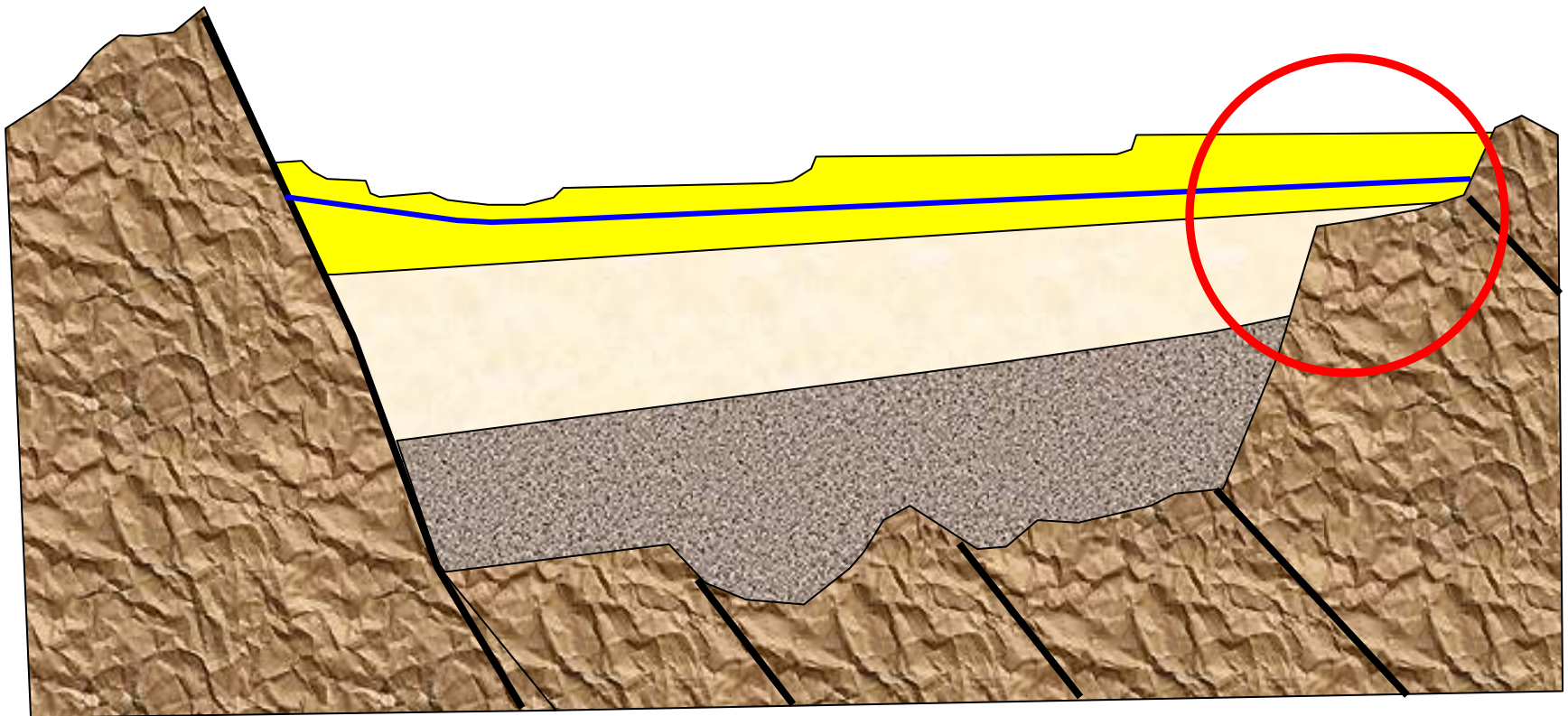
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Subsidence Features



Earth Fissure Development

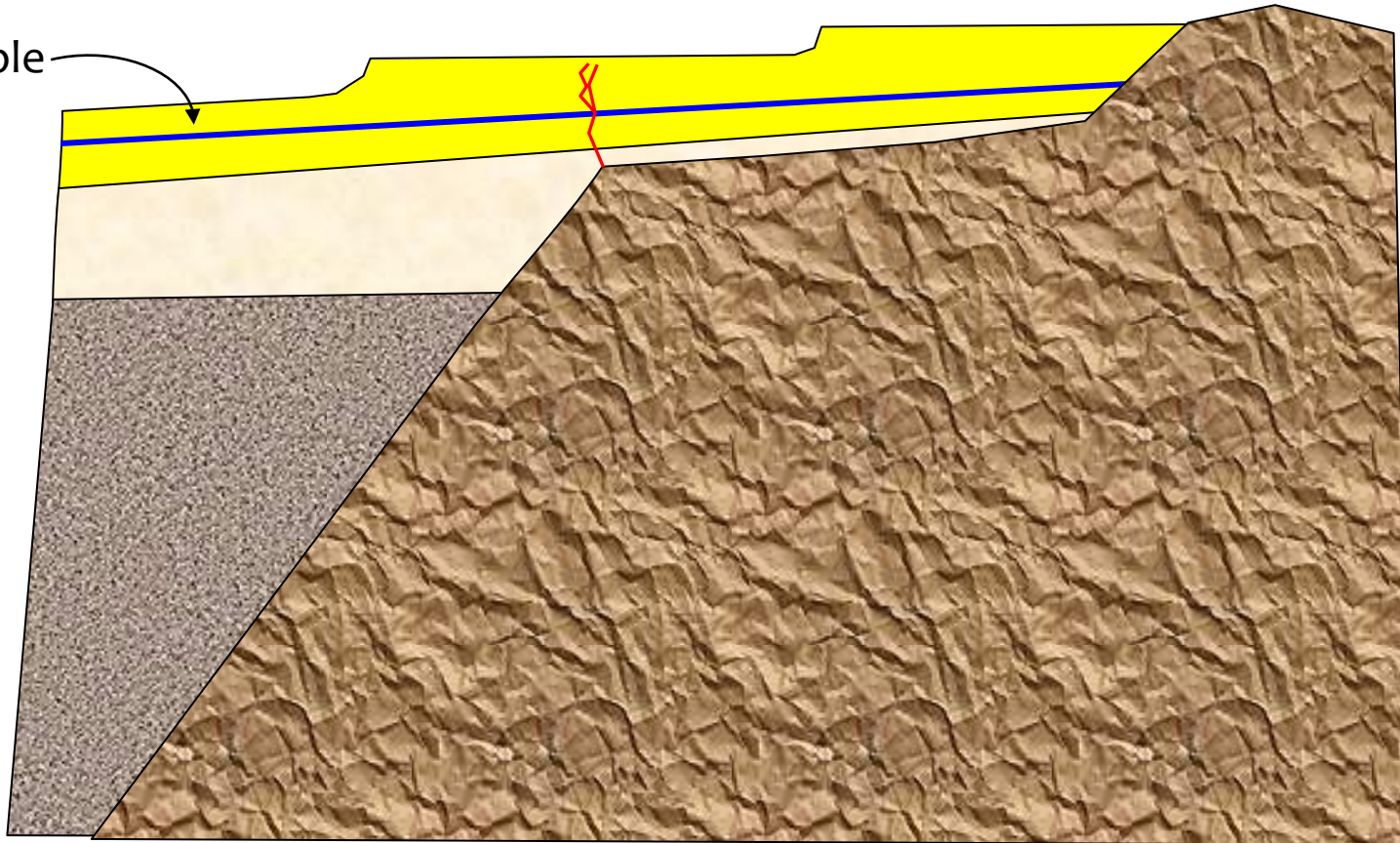


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Earth Fissure Development

Water Table



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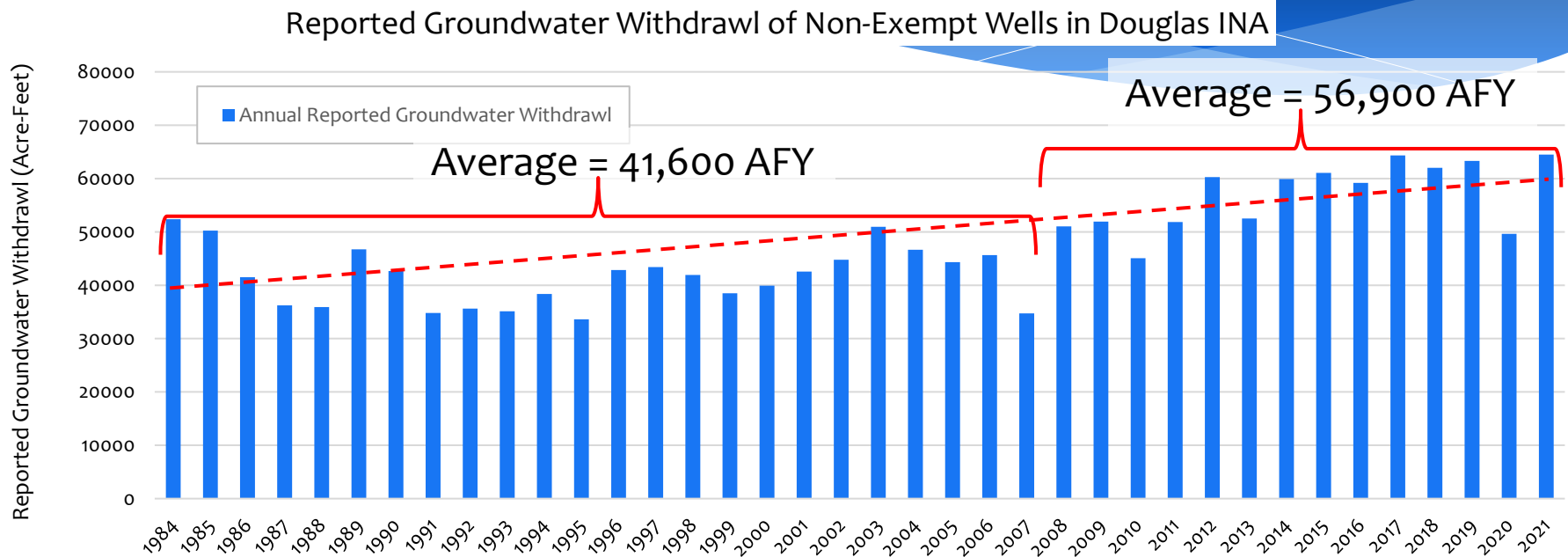
Earth Fissures



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Douglas INA Reported Pumpage Data



- Reported Groundwater Withdrawals for Non-Exempt wells (>35gpm) between 1984 and 2021
- 1984-2007 average = 41,600 AFY
- 2007-2021 average = 56,900 AFY
- ~23% increase over 37 years (statistical trend of + ~610 AF year/year – or – +198 Million Gallons year/year)
- ~1,731,500-acre feet reported since 1984

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Data Needs

- Water Level Data
- Pump Testing Data
 - Step-rate Pumping Tests
 - Constant-rate Aquifer Tests
 - Observation Well Water Level Measurements
- Lithology Data
 - Drilling Logs
 - Chip Trays
- Downhole Geophysical Logs
 - “E-logs”



Summary of Hydrology

- For the basin as a whole, outflows are currently exceeding inflows by a factor of 2
 - ~22,000 AFY of inflow to the aquifer (USGS Estimates)
 - ~ 45,000 AFY of outflow from the aquifer (USGS Estimates)
- Groundwater declines of over 200 feet have been observed since 1965
- Land Subsidence and Earth Fissures have been Observed



Overview of AMA Components & Regulatory Requirements

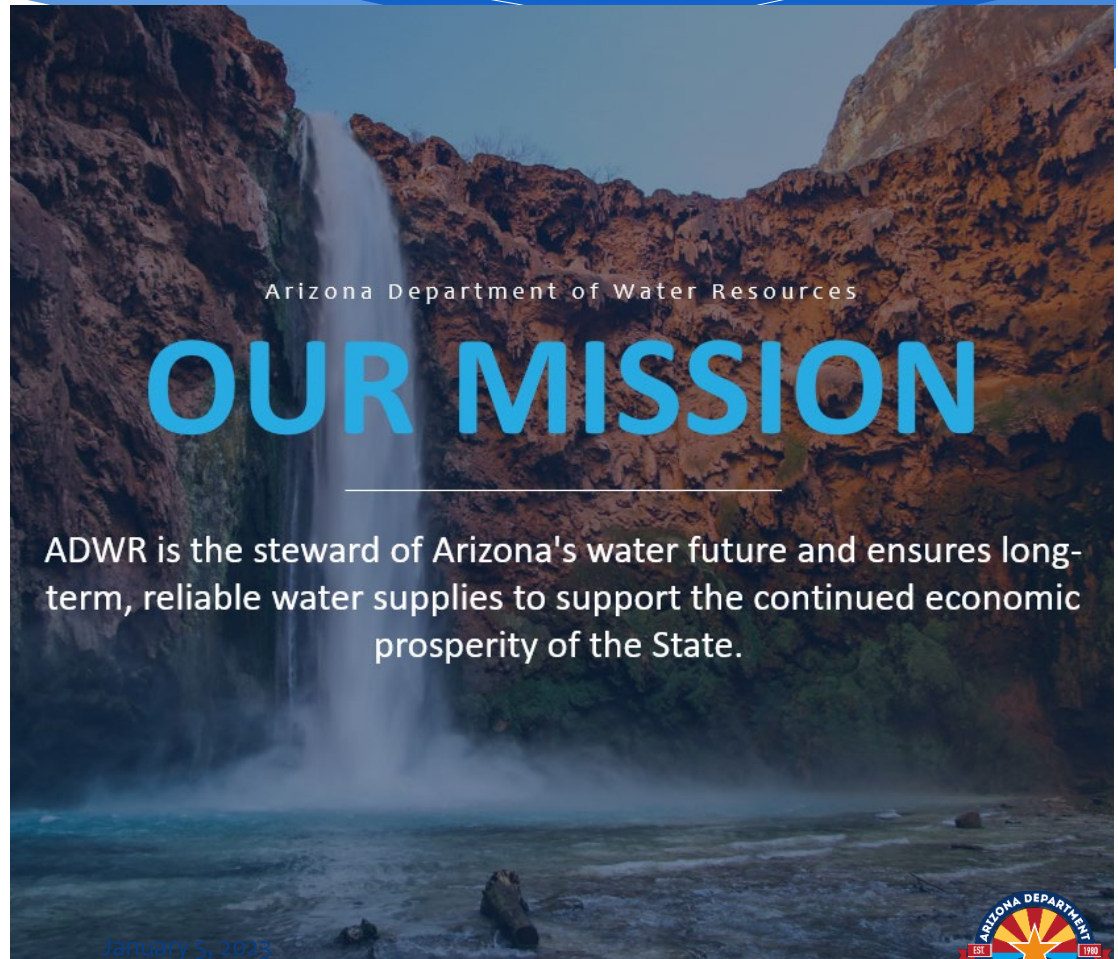


*Natalie Mast, AMA Director
Arizona Department of Water Resources*

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Groundwater Management Act of 1980

- Created the Arizona Department of Water Resources
- Imposes certain regulations statewide, but most regulations are limited to areas designated as “irrigation non-expansion areas” and “active management areas”
- Authorizes establishment of new AMAs by election



Regulatory Structure

- Registration of all wells
- Adequate Water Supply
- Community Water Systems Documentation

+

- Expansion of irrigated acres is prohibited
- Measuring and Reporting

+

- Assured Water Supply
- Management Goals, Plans, & Conservation Programs
- Grandfathered Rights and Withdrawal Permits
- Lakes Bills, Transportation, Well Spacing, and Other

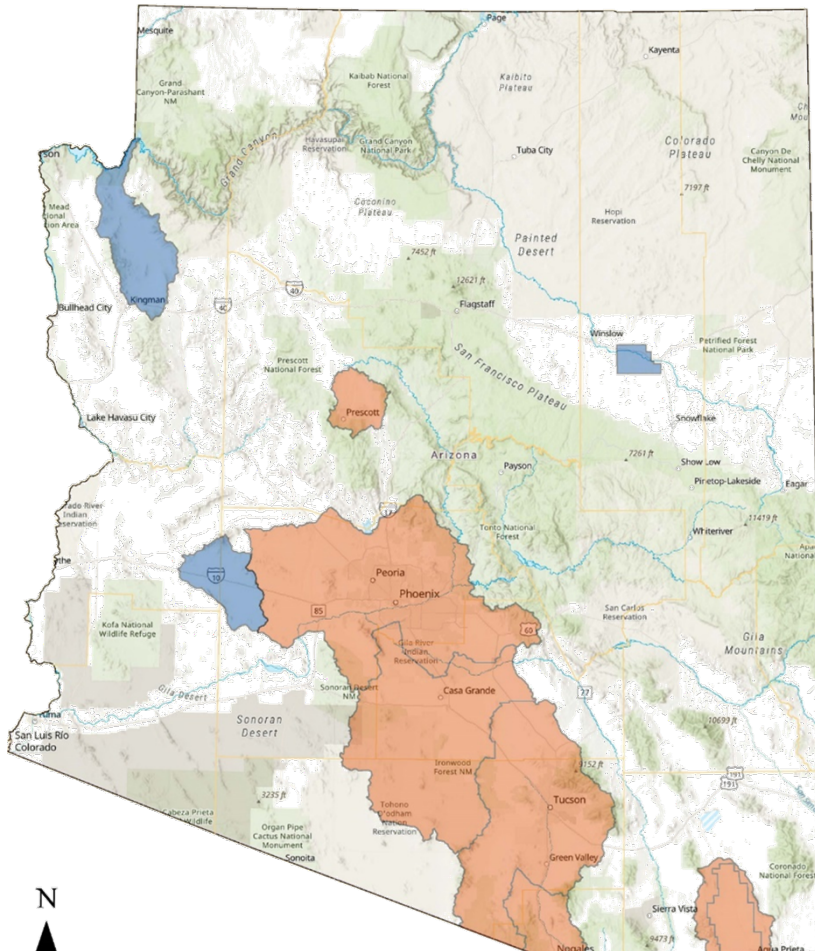
Statewide

INA

AMA



Existing Active Management Areas (AMAs) & Irrigation Non-Expansion Areas (INAs)



Six AMAs

- Prescott AMA
- Phoenix AMA
- Pinal AMA
- Tucson AMA
- Santa Cruz AMA
- Douglas AMA (est. December 1, 2022)

Three INAs

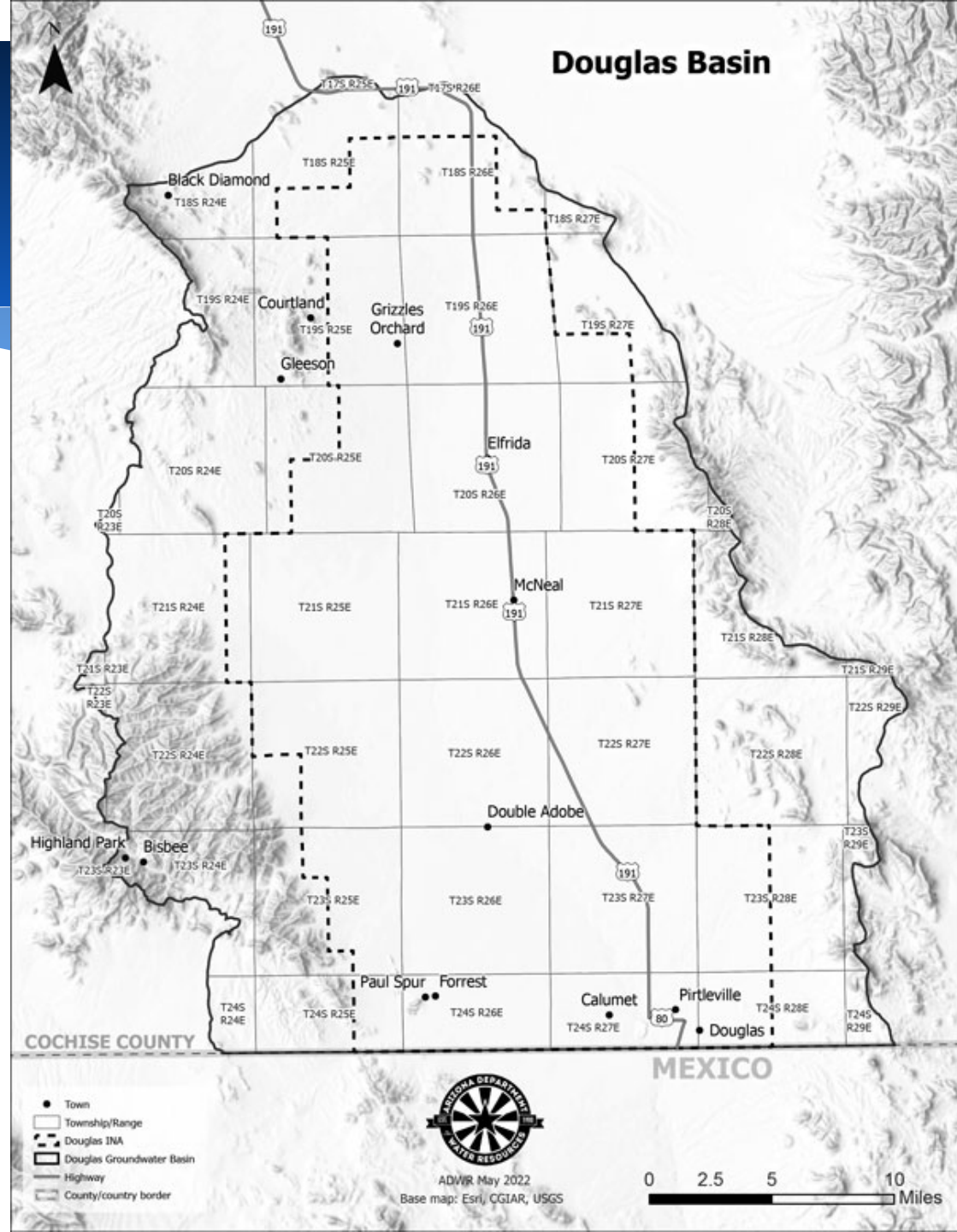
- Joseph City INA
- Harquahala INA
- Hualapai Valley INA (est. December 19, 2022)

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Douglas Active Management Area

- First subsequent AMA, first to be established by local election
 - Est. December 1, 2022
- Located entirely in Cochise County
- A portion of the basin was previously an INA
- Cochise County – Mandatory Adequacy



What is an Active Management Area?

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Definitions

- **Irrigation:** The application of water to two or more acres of land to produce plants or parts of plants for sale or consumption.
- **Grandfathered right:** A right to withdraw and use groundwater based on lawful withdrawals and use of groundwater prior to the designation of the active management area.
- **Exempt well:** a well with a pump capacity of 35 gpm or less, which is used to withdraw groundwater for non-irrigation purposes. An exempt well may not exceed 10 AF/year for non-irrigation purposes other than domestic use and stock watering.
- **Groundwater Users Advisory Council (GUAC):** A council in each active management area consisting of five members appointed by the governor to represent the users of groundwater in the active management area.
- **Acre-foot (AF):** A unit of volume that is equal to the amount of water that would be required to fill one acre of land one foot deep. Equivalent to 325,851 gallons.

Prohibition on Expansion of Irrigated Acres

A.R.S. § 45-416

The call for the election (August 30, 2022) established a prohibition on the irrigation of any acres not legally irrigated at any time during the five years preceding the call for the election.

Only acres of land that were legally irrigated at any time prior to the five years preceding the call for an election may be irrigated.

- The limitation on the acres that may be irrigated continued until the final results of the election were certified by the appropriate county Board(s) of Supervisors.
 - On December 1, 2022, this prohibition was lifted in the Willcox basin.
 - On December 1, 2022, the Douglas AMA was established, and **the prohibition remains in effect permanently.**

* *“Irrigate” means to apply water to two or more acres of land to produce plants or parts of plants for sale or human consumption, or for use as feed for livestock, range livestock or poultry.*



Examples of Major Characteristics & Programs in an Initial AMA

- Prohibition on expansion of irrigated acres
- Metering and reporting requirements
- Withdrawal fees*
- Management Goal
- Management Plans
 - Conservation Programs
- Wells Requirements
 - Non-exempt wells (>35 gpm)
 - Well Impact Analysis
- Groundwater Rights and Withdrawal Authorities
- Assured Water Supply

* Withdrawal fees are authorized in initial AMAs pursuant to A.R.S. § 45-611.

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Examples of Major Characteristics & Programs in a Subsequent AMA

- Prohibition on expansion of irrigated acres
- Metering and reporting requirements
- ~~Withdrawal fees (not authorized)~~
- Management Goal
 - A.R.S. § 45-569(A)
- Management Plan
 - A.R.S. § 45-569(B)
- Wells Requirements
 - Impact Analysis for new Non-Exempt Wells
- Groundwater Rights and Withdrawal Authorities
 - Applications available: <https://new.azwater.gov/ama/douglas-ama>
- Assured Water Supply

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Who is allowed to use groundwater?

- Exempt wells:
 - Generally, a person may withdraw groundwater for a non-irrigation use from a well having a pump with a maximum pump capacity of **35 gallons per minute or less** (“exempt well”) without a right or permit. However, there are some limitations on the use of exempt wells within AMAs. Some of these limitations include:
 - Only one exempt well may be used to serve the same use at the same location.
 - Withdrawals from an exempt well for a non-irrigation purpose other than domestic use and stock watering are limited to 10 acre-feet per year.
- Non-exempt wells:
 - Within an AMA, a person may withdraw groundwater from a well having a pump with a maximum capacity greater than 35 gallons per minute (“non-exempt well”) **only if the person holds a right or permit** to withdraw the groundwater.
 - Any person irrigating 2 or more acres or using 10 or more AF for a non-irrigation use must file an application for a grandfathered right or obtain a withdrawal authority.
 - **Failure to apply for a GFR by the deadline (March 1, 2024) will result in the waiver and relinquishment of any right to use groundwater (A.R.S. § 45-477.01).**



Well Spacing Requirements for Non-Exempt Wells in AMAs

- An application for a permit to drill a new non-exempt well in an AMA must be denied if the proposed well would cause unreasonably increasing damage to surrounding land and other water users.
- ADWR has adopted rules defining what is unreasonably increasing damage.
 - Referred to as Well Impact Analysis



Measuring and Reporting

- With a few narrow exceptions, persons withdrawing groundwater from **non-exempt wells** are required to measure their groundwater withdrawals with a measuring device and method that is approved by ADWR and must report the groundwater withdrawals to ADWR.
 - Annual reports are due March 31 of each year.
 - Requirements for water measuring devices: A.R.S. § 45-604 and A.A.C. R12-15-901 et seq.
- Persons withdrawing groundwater from **exempt wells** (wells having a pump with a maximum pump capacity of 35 gallons per minute or less) for a **non-irrigation use** generally are not required to measure and report the groundwater withdrawals.



Douglas AMA was established as a subsequent AMA on December 1, 2022

- In a subsequent AMA, only acres of land that were legally irrigated at any time prior to the five years preceding the call for an election may be irrigated with any water, except as provided below.
 - Acres of land that were not irrigated during the relevant five-year time period may be irrigated with a decreed or appropriative (surface water) right established before the date of the call for the election.
 - Acres of land not irrigated during the relevant five-year time period may be irrigated if a **substantial capital investment (SCI)** has been made to bring the land into irrigation within a particular window of time.
- Historical irrigation reference period: August 30, 2017 – August 30, 2022



Substantial Capital Investment (SCI)

A.R.S. § 45-452(G)

Because the inquiry is very fact-specific, ADWR cannot make SCI findings or provide SCI interpretations for individual circumstances.

Property owners who believe they qualify for consideration of SCI may apply to ADWR, by submitting Attachment A with their GFR application. ADWR will evaluate each application on a case-by-case basis.

- For an area that was not previously an INA:
 - Acres of land will be deemed to have been in irrigation if SCI was made within the **five-year period** preceding the call for the election “for the subjugation of such land for an irrigation use **including on-site irrigation distribution facilities and a well or wells the drilling and construction of which were substantially commenced before the date of the ... call for the election.**”
- For an area that was previously an INA:
 - Acres of land will be deemed to have been in irrigation if “the director finds that substantial capital investment has been made in the **twelve months before the date of the ... call for the election, for the improvement of the land and on-site irrigation distribution facilities including the drilling of wells, for an irrigation use.**”



Types of Grandfathered Rights (GFRs)

- Irrigation Grandfathered Right (IGFR or IGR)
 - Allows the holder to irrigate acres of land that were irrigated in the five years preceding the call for the election
 - Tied to the land
- Type 1 Non-Irrigation GFRs
 - Created from the permanent retirement of an IGFR, may be used for non-irrigation purposes
 - Maximum of 3 acre-feet/acre, but may be less.
- Type 2 Non-Irrigation GFRs
 - Right that can be used for non-irrigation purposes, based on non-irrigation pumping in the five years preceding the designation of the AMA.
 - Flexible, may be sold separately from the land. May not be divided, but a portion may be leased, and it may be used anywhere within the AMA.

Douglas AMA GFR Application Deadline: March 1, 2024

“... a person claiming the right to withdraw or receive and use groundwater pursuant to a grandfathered right shall file an application for a certificate of grandfathered right with the department not later than fifteen months after the date of the designation of the active management area...” (A.R.S. 45-476(A))

Failure to apply for a GFR by the deadline will result in the waiver and relinquishment of any right to use groundwater.

Applications available: <https://new.azwater.gov/ama/douglas-ama>



Applications for Grandfathered Rights (GFRs)

Douglas AMA GFR Application Deadline: March 1, 2024

Applications available: <https://new.azwater.gov/ama/douglas-ama>

Failure to apply for a GFR by the deadline will result in the waiver and relinquishment of any right to use groundwater.

Irrigation GFRs

- “Simple” IGFR – Initial Fee: \$500
 - Has an irrigation authority (60-) in the former Douglas INA, and
 - Legally irrigated between 8/30/2017 – 8/30/2022, and
 - No request for consideration of SCI
- Complex IGFR – Initial Fee: \$1000
 - Does not have an irrigation authority or was outside the boundaries of the former Douglas INA, and/or
 - Includes request for consideration of SCI

Non-irrigation GFRs

- Type 1 – Initial Fee: \$1000
 - Non-irrigation GFR based on the permanent retirement of irrigated acres
- Type 2 – Initial Fee: \$1000
 - Non-irrigation GFR Based on non-irrigation groundwater use between 12/1/2017 – 12/1/2022

For consideration of Substantial Capital Investment (SCI), please submit Attachment A with your GFR Application. The initial fee for all applications that include Attachment A is \$1000.

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Application Fees

Initial Application Fees

- Simple IGFR: \$500
- Complex IGFR: \$1000
- Type 1 Non-Irrigation GFR: \$1000
- Type 2 Non-Irrigation GFR: \$1000

**The initial fee is \$1000 for any application requesting consideration of Substantial Capital Investment (SCI).*

Hourly Fees

- Initial fee is a deposit on an hourly rate of \$118/hour.
- Time spent analyzing and processing an application is billed against this deposit, with a refund or bill issued accordingly when processing is complete.
- Maximum billable amount: \$10,000

Reference: A.A.C. R12-15-103



Grandfathered Rights (GFRs) CRITICAL INFORMATION

Douglas AMA GFR Application Deadline: March 1, 2024

Failure to apply for a GFR by the deadline will result in the waiver and relinquishment of any right to use groundwater (A.R.S. § 45-477.01).

Applications available at <https://new.azwater.gov/ama/douglas-ama>

All those requesting consideration of Substantial Capital Investment should submit Attachment A with the relevant application.



Groundwater Withdrawal Permits

- A person may apply to the Department for a groundwater withdrawal permit.
- Groundwater withdrawal permits allow the permit holder to withdraw groundwater for a non-irrigation use for a prescribed period of time if certain conditions are met.
- Types of Withdrawal Permits
 - Hydrologic testing permits (10 AF or less/up to 1 year)
 - Poor quality groundwater permits
 - Temporary electrical energy generation permits for emergency situations
 - Mineral extraction permits
 - Drainage and dewatering permits
 - General industrial use permits



Service Area Rights

- A service area right is a right of a city, town, private water company or irrigation district to withdraw groundwater for delivery to customers within its service area.
- The right expands as the service area expands.



Management Goals for Initial AMAs

A.R.S. § 45-562

Safe-yield:

“A groundwater management goal which attempts to achieve and thereafter maintain a long-term balance between the annual amount of groundwater withdrawn in an active management area and the annual amount of natural and artificial recharge in the active management area.”

(A.R.S. § 45-561(12))

Prescott, Phoenix, and Tucson AMAs:

Safe-yield by the year 2025

Pinal AMA:

To allow development of non-irrigation uses and to preserve existing agricultural economies in the AMA for as long as feasible, consistent with the necessity to preserve future water supplies for non-irrigation uses.

Santa Cruz AMA:

To maintain a safe-yield condition in the AMA and to prevent local water tables from experiencing long term declines



Management Plans for Initial AMAs

A.R.S. § 45-563 (A)

“The director shall develop a management plan for each initial active management area for each of five management periods... and shall adopt the plans only after public hearings... The plans shall include a continuing mandatory conservation program... designed to achieve reductions in withdrawals of groundwater.”



Conservation Programs in Initial AMAs

A.R.S. § 45-563(A): “... The plans shall include a continuing mandatory conservation program for all persons withdrawing, distributing or receiving groundwater designed to achieve reductions in withdrawals of groundwater.”

- Programs for Three Sectors:
 - Agricultural (Chapter 4)
 - Base Program
 - * Water Duties & Allotments
 - Historic Cropping Program
 - Best Management Practices Program (BMP)
 - Municipal (Chapter 5)
 - GPCD Program
 - Non-Per Capita Program (NPCCP)
 - Industrial (Chapter 6)
 - General Requirements
 - Specific Subsector Programs
- Conservation Programs include:
 - Regulatory requirements related to water use
 - Reporting requirements
 - Conservation targets
 - Flexibility provisions
 - Compliance provisions



Adequate Water Supply

- Cochise County is broadly subject to the Adequate Water Supply Program.
 - The Douglas AMA is now subject to the Assured Water Supply Program.
- Outside the AMAs, a developer of a proposed subdivision must obtain from ADWR a report on the adequacy of the water supply for 100 years.
 - Cochise County has adopted an ordinance **requiring** an adequate water supply in order to get plat approval. This is referred to as Mandatory Adequacy.
- Groundwater is physically available only if it is available above 1,200 feet below land surface.

January 5, 2023



Assured Water Supply

- Douglas AMA is subject to Assured Water Supply
- General Requirements:
 - Adequacy Requirements

NOTE: The details of these requirements may be different under Assured Water Supply.

 - Physical, legal, and continuous availability
 - Financial capability
 - Water quality
 - Additional Requirements
 - Consistency with management plan and management goal



Management Goal

January 5, 2023



Management Goals for Initial AMAs

A.R.S. § 45-562

Safe-yield:

“A groundwater management goal which attempts to achieve and thereafter maintain a long-term balance between the annual amount of groundwater withdrawn in an active management area and the annual amount of natural and artificial recharge in the active management area.”

(A.R.S. § 45-561(12))

Prescott, Phoenix, and Tucson AMAs:

Safe-yield by the year 2025

Pinal AMA:

To allow development of non-irrigation uses and to preserve existing agricultural economies in the AMA for as long as feasible, consistent with the necessity to preserve future water supplies for non-irrigation uses.

Santa Cruz AMA:

To maintain a safe-yield condition in the AMA and to prevent local water tables from experiencing long term declines



How Will the Management Goal be adopted?

- ADWR Director will propose a management goal for the AMA and the number of years in which the goal is to be achieved (A.R.S. § 45-569(A)).
 - With today's meeting, ADWR Director is beginning a process to propose a management goal.
 - ADWR has received several comments and suggestions regarding the management goal and will consider these, the comments heard in today's meeting, and those received by **January 20, 2023** in developing a draft goal.
 - Comments may be submitted after today's meeting to managementplans@azwater.gov
- ADWR will conduct a public hearing on the proposed goal in accordance with A.R.S. § 45-570. The public will have an opportunity to provide oral or written evidence for or against the management goal.

How Will the Management Plan(s) be adopted?

- ADWR Director will promulgate an initial management plan for the AMA and may provide for subsequent management plans in the time period established for the goal (A.R.S. § 45-569(B)).
 - ADWR will conduct a public hearing on the proposed management plan in accordance with A.R.S. § 45-570. The public will have an opportunity to provide oral or written evidence for or against the adoption of the management plan.
- Conservation requirements in the management plan will go into effect at least 2 years after the adoption of the plan.
 - First possible effective date for conservation requirements: January 1, 2027

Management Goal: Framework

Management Goal Template:

“The management goal of the Douglas AMA is to accomplish (a goal) by meeting (a measurable objective) by (a timeline).”

Components

- Goal: the desired outcome, generally broad and long-term
- Objective: specific, measurable action to be achieved to reach the goal
- Timeline: the time by which the goal should be achieved

Specific strategies to achieve the objective may change over time and aren't typically included in the goal statement.



Management Goal: Principles

- Should move the AMA toward long-term water sustainability
 - Criteria regarding water resource management
 - Decrease outflows/increase inflows
- Should be measurable or contain evaluation criteria
- Must provide a timeline in which to achieve the goal
- Must be achievable and appropriate to the Douglas AMA
- Must be legal, reasonable, and defensible



Management Goal: Initial Ideas

Management Goal Template:

“The management goal of the Douglas AMA is to accomplish (a goal) by meeting (a measurable objective) by (a timeline).”

Examples of Initial Ideas Submitted for the Goal & Objective

- Extend the life of the aquifer by reducing overdraft through the reduction of withdrawals of groundwater by each water use sector.
- To manage groundwater supplies in a way that slows the decline of groundwater levels in the AMA
- Preserve a sustainable supply of groundwater for non-irrigation uses in the AMA by slowing the decline of groundwater levels.

Examples of Initial Ideas Submitted for the Timeline

- By 2050
- Within 30 years of the first effective conservation requirements
- Stabilize within ten years and achieve reductions each year thereafter until XXXX.



Douglas AMA Management Goal

Management Goal Template:

“The management goal of the Douglas AMA is to accomplish (a goal) by meeting (a measurable objective) by (a timeline).”

Principles & Components

- Should move the AMA toward long-term water sustainability
 - Criteria regarding water resource management
 - Decrease outflows/increase inflows
- Should be measurable or contain evaluation criteria
- Must provide a timeline in which to achieve the goal
- Must be achievable and appropriate to the Douglas AMA
- Must be legal, reasonable, and defensible

Goal & Objective Ideas

- Extend the life of the aquifer by reducing overdraft through the reduction of withdrawals of groundwater by each water use sector.
- To manage groundwater supplies in a way that slows the decline of groundwater levels in the AMA
- Preserve a sustainable supply of groundwater for non-irrigation uses in the AMA by slowing the decline of groundwater levels.

Timeline Ideas

- By 2050
- Within 30 years of the first effective conservation requirements
- Stabilize within 10 years, achieve reductions each 10 years thereafter until XXXX.



Discussion - Logistics

- We are opening the floor for questions and comments related to the process for the establishment of the AMA and the management goal.
 - Specific questions about individual circumstances should be addressed separately via phone/email.
- Please be respectful to staff and to fellow attendees.
- Please speak into a microphone, so those participating virtually can hear.
- Today's meeting will end at 6pm. We request that each person limit themselves to one or two questions/comments to give everyone who wishes the opportunity to speak.



References & Contacts

Presentation and meeting recording will be available at <https://new.azwater.gov/meetings>

Douglas AMA Information & Applications:
<https://new.azwater.gov/ama/douglas-ama>

Comments regarding Management Goal & Plan:
managementplans@azwater.gov

Other AMA Questions:
AMA Customer Service email: earp@azwater.gov
AMA Customer Service phone: (602)771-8585



PROTECTING
ARIZONA'S WATER SUPPLIES
for ITS NEXT CENTURY