WATER SUPPLIES AND THE TOWN OF PARADISE VALLEY

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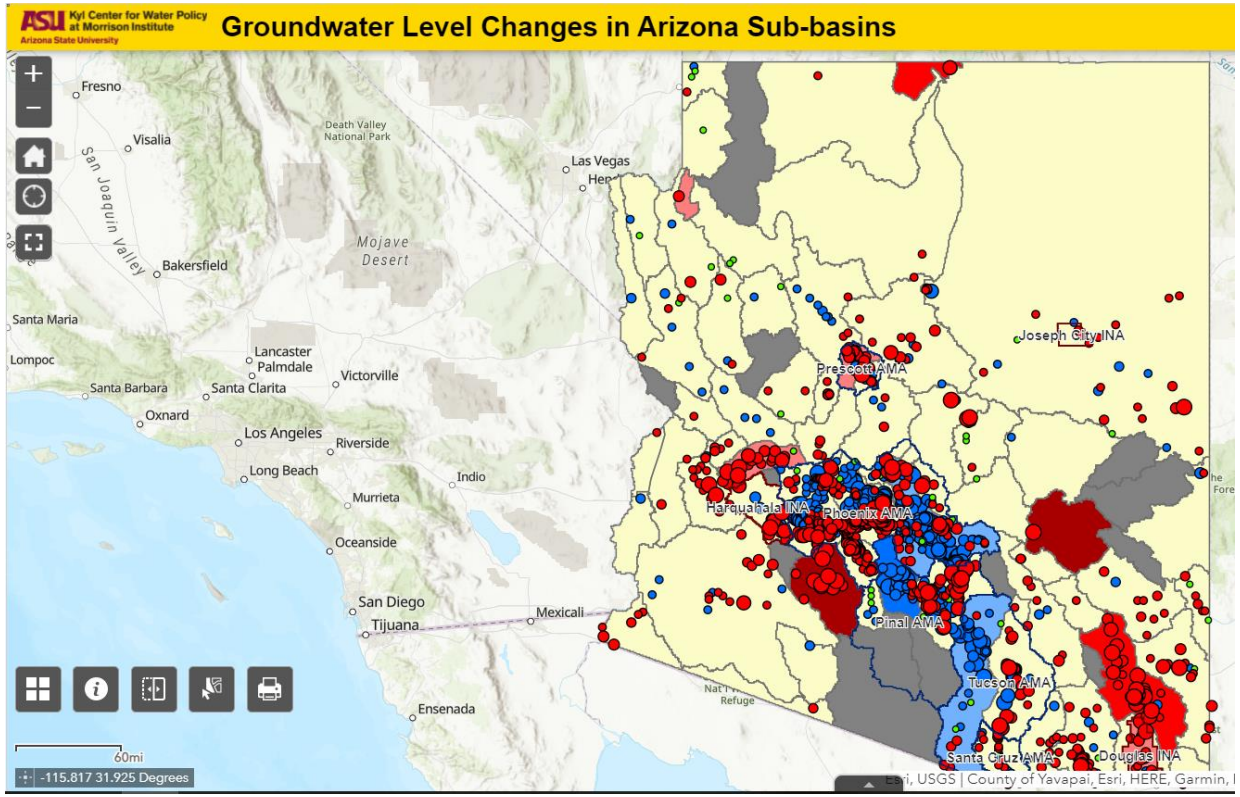
Mission: promote informed public dialogue on critical water issues in Arizona and the West

- non-partisan
- research & analysis
- historical understanding

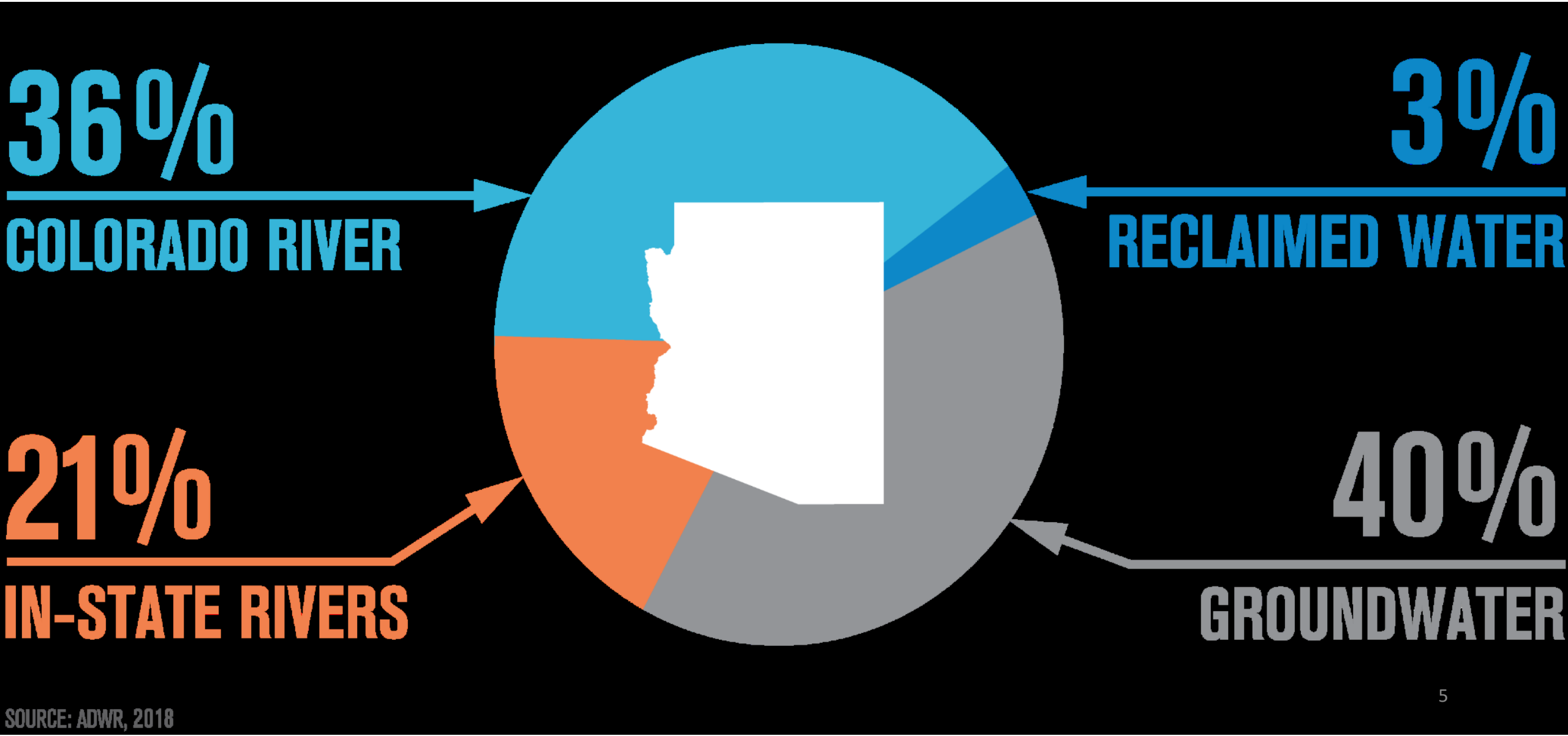
Arizona Water Blueprint

azwaterblueprint.asu.edu

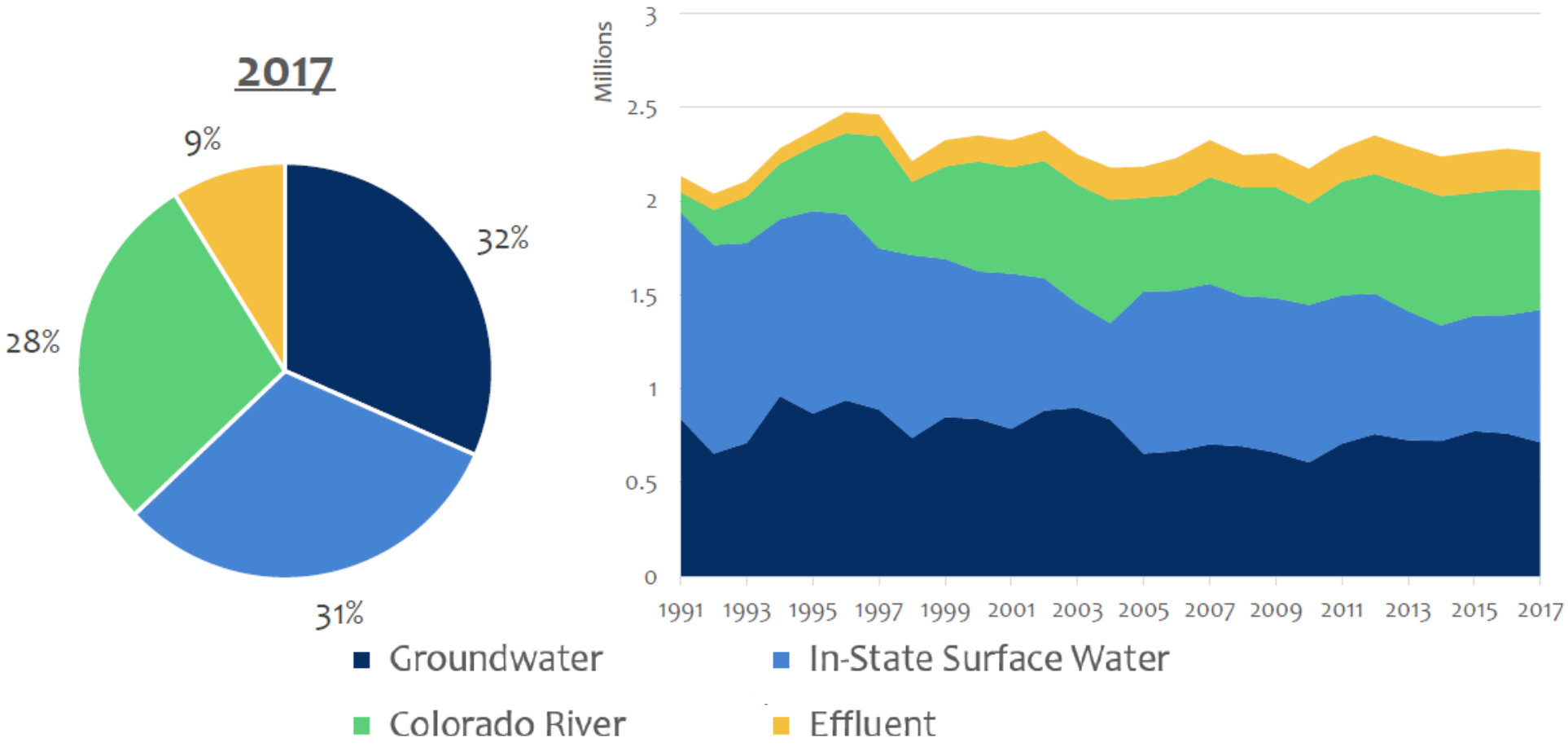


SHRINKING LAKE MEAD HAS GRABBED ALL THE ATTENTION

Statewide Supply



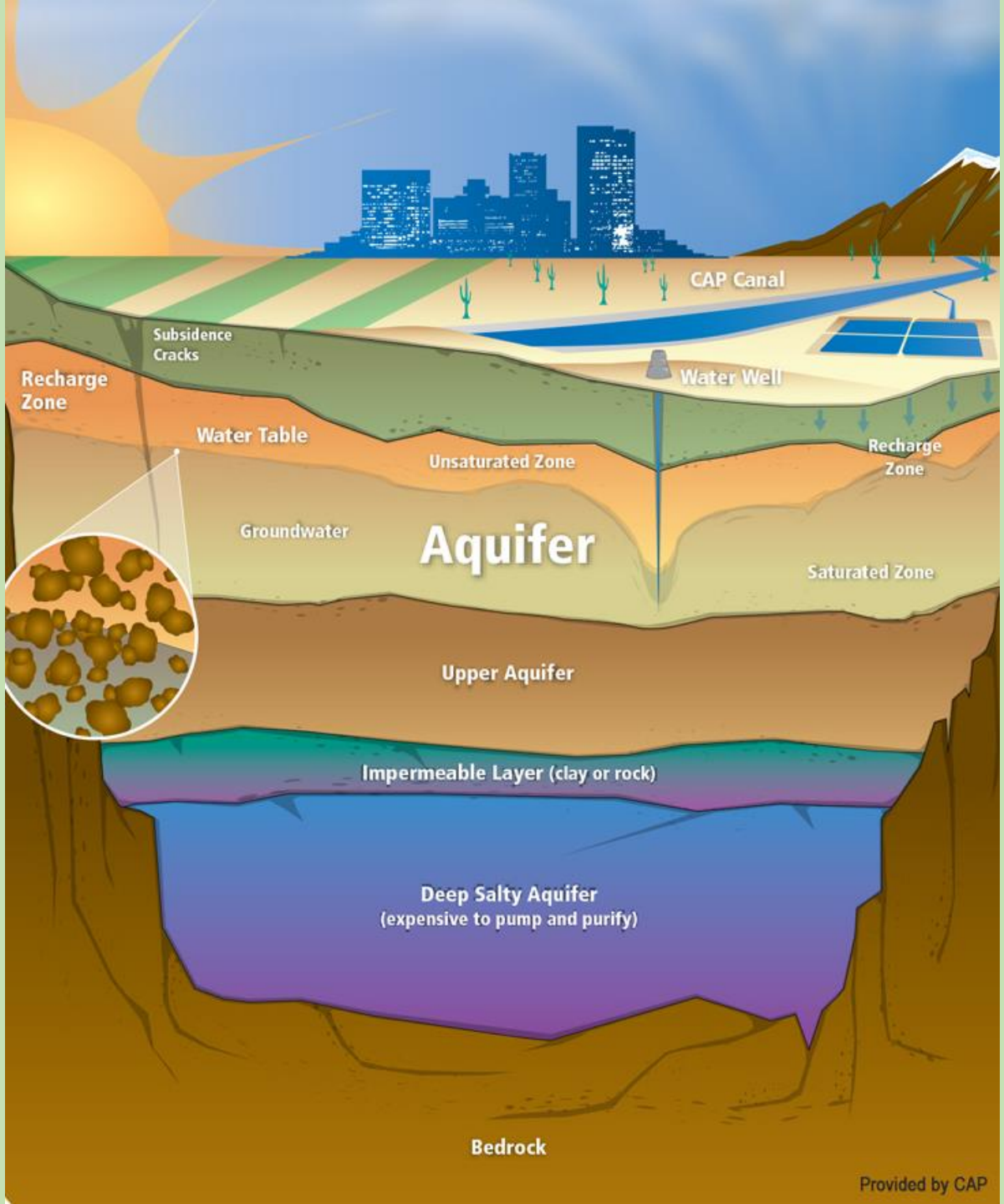
Greater Phoenix Supply



WHAT IS GROUNDWATER . . .

WATER FOUND UNDERGROUND IN THE CRACKS AND SPACES IN SOIL, SAND AND ROCK

STORED IN GEOLOGIC FORMATIONS CALLED AQUIFERS



ARIZONA'S GROUNDWATER SUPPLIES ARE THREATENED

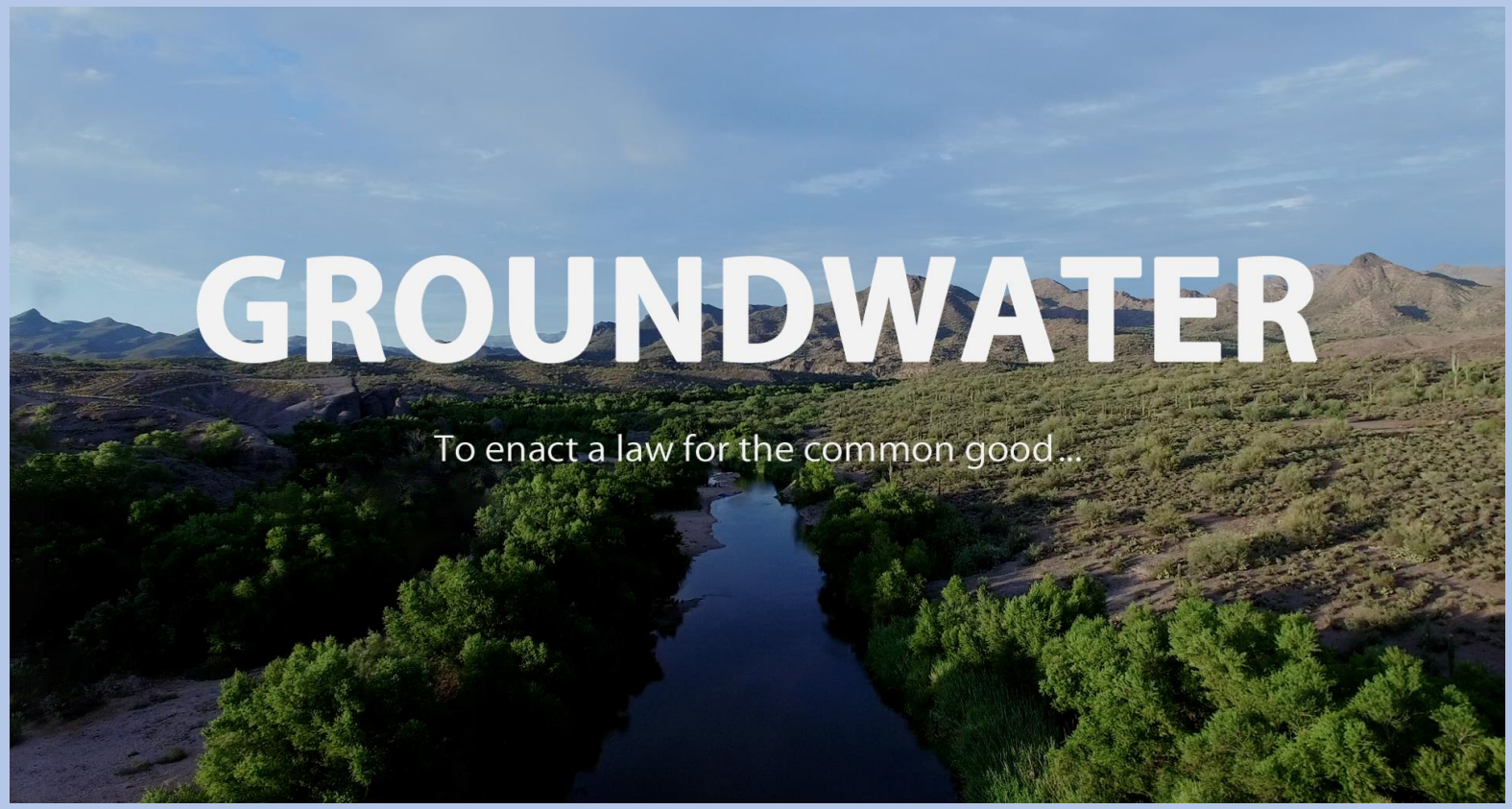
- Accumulated over thousands of years
- Finite supply
- Have been "overdrafting" groundwater for many decades

OVERDRAFTING LEADS TO . . .

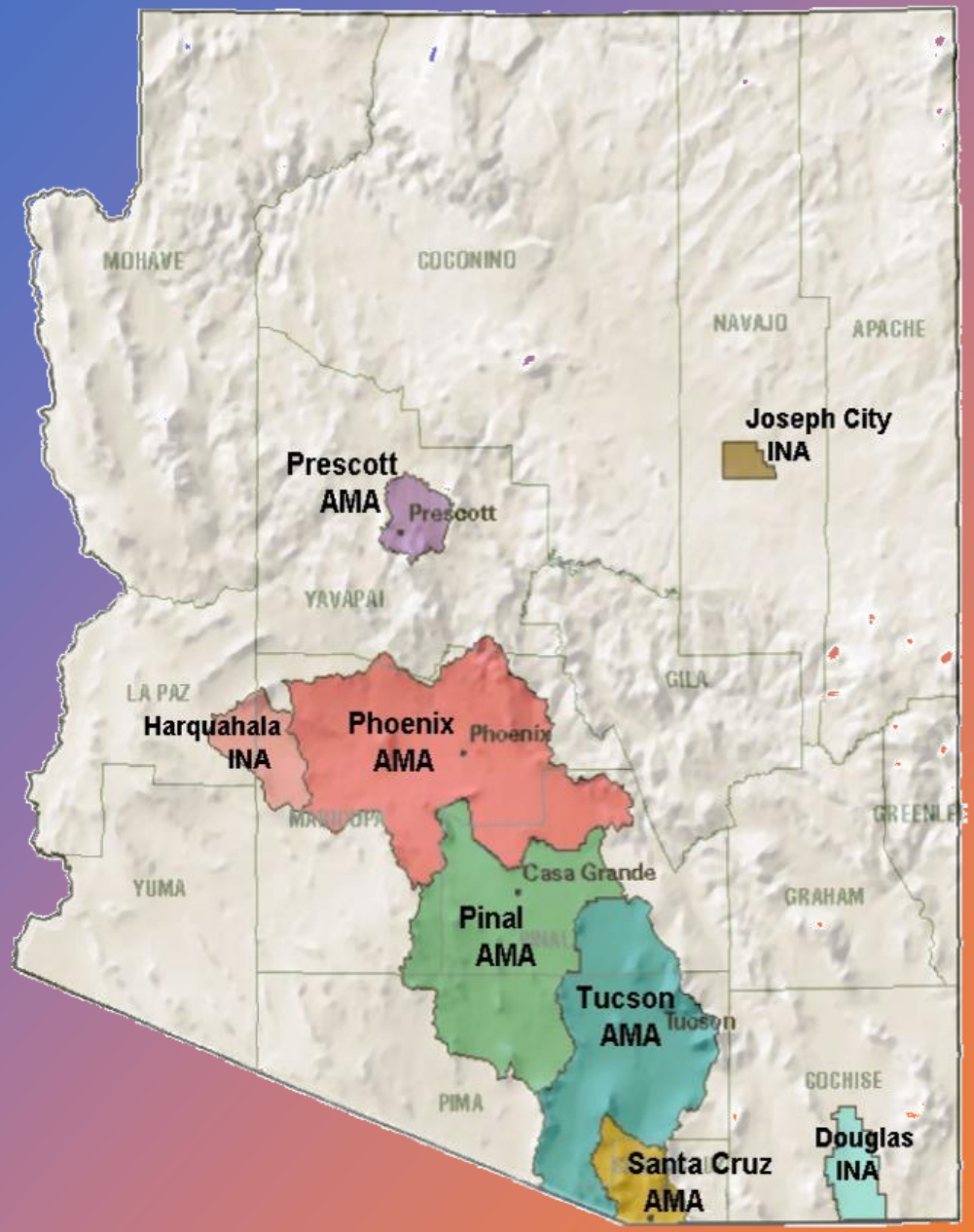
- Increased costs to pump and treat groundwater
- Land subsidence and earth fissuring
- Compromised water quality

CONSEQUENCES OF NON-MANAGEMENT

- LITIGATION
- NEGATIVE PUBLICITY
- LACK OF SUPPLIES DURING DROUGHT
- REAL PROBABILITY THAT GROUNDWATER WILL EVENTUALLY RUN OUT



1980 ARIZONA GROUNDWATER MANAGEMENT ACT

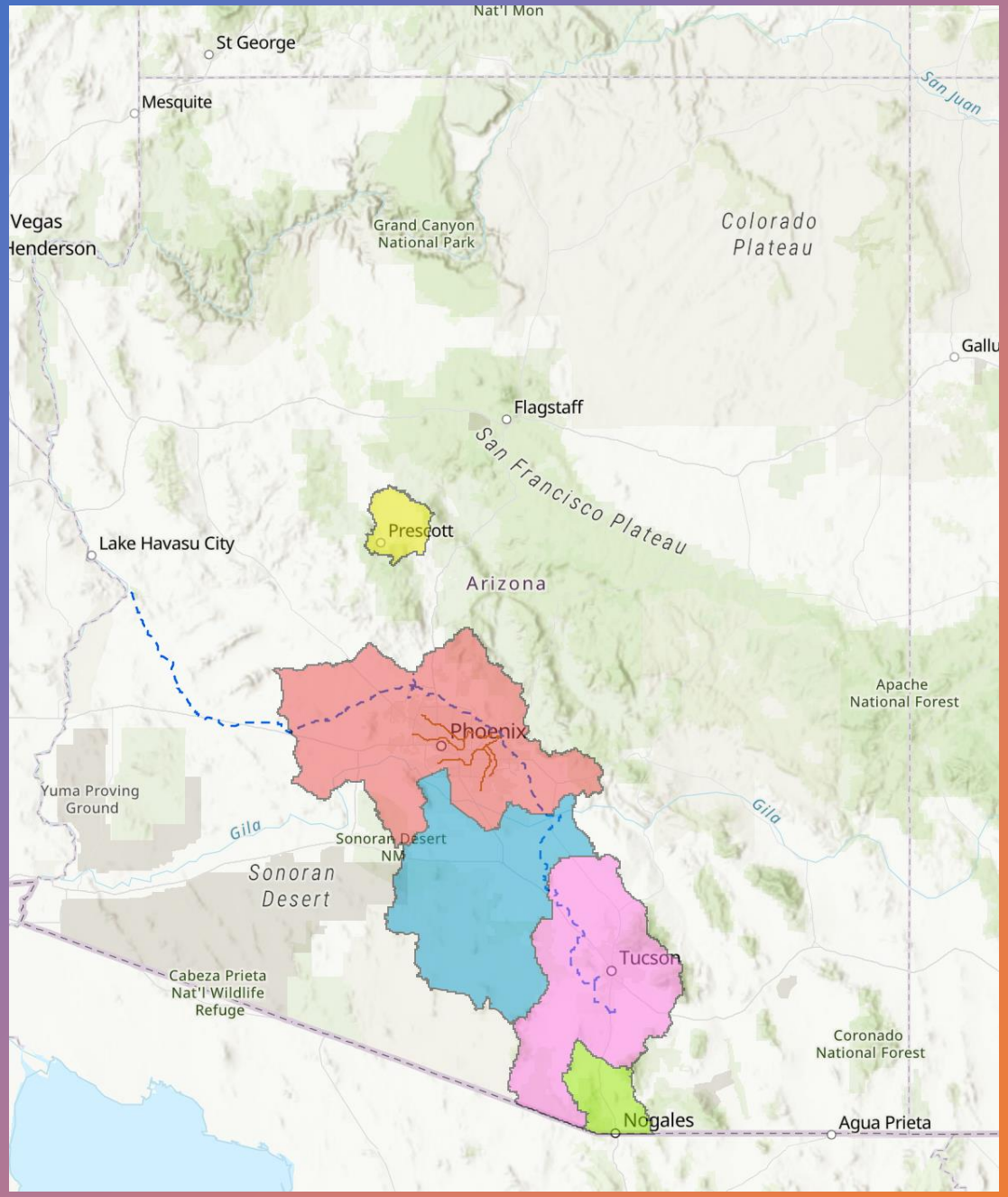


ACTIVE MANAGEMENT AREAS (AMAs)

Long-term balance between the *annual* amount of groundwater pumped in the AMA and the *annual* amount of recharge.

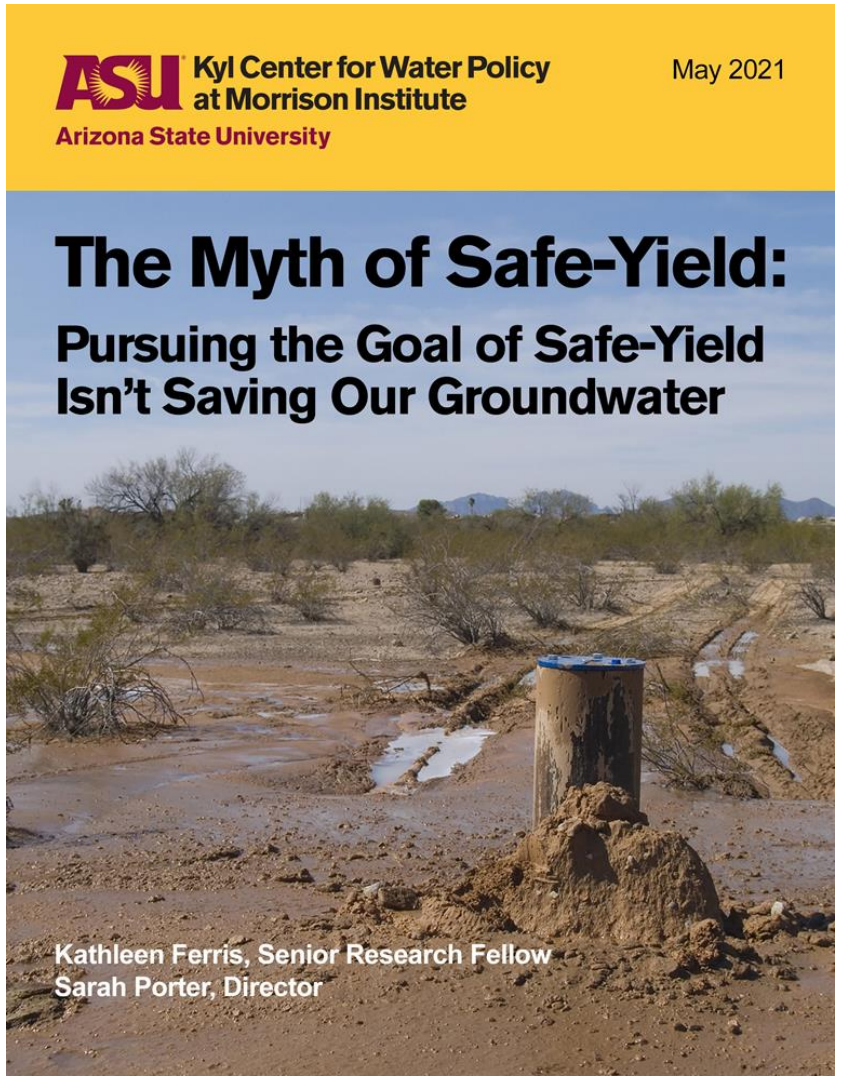
To be reached by January 1, 2025.

What is SAFE-YIELD?



According to ADWR:

- The Phoenix, Prescott and Santa Cruz AMAs are **unlikely to achieve safe-yield** with current practices and the Tucson AMA is **unlikely to maintain safe-yield** under Colorado River shortage conditions.



- **Conservation won't achieve safe-yield**
- **Too many users allowed to pump groundwater in perpetuity, while others permitted to initiate new uses**
- **Safe-yield won't prevent lowering groundwater levels in all parts of an AMA**
- **Amendments to the GMA have created additional challenges—including allowing groundwater to be used to show an assured water supply for new municipal growth**

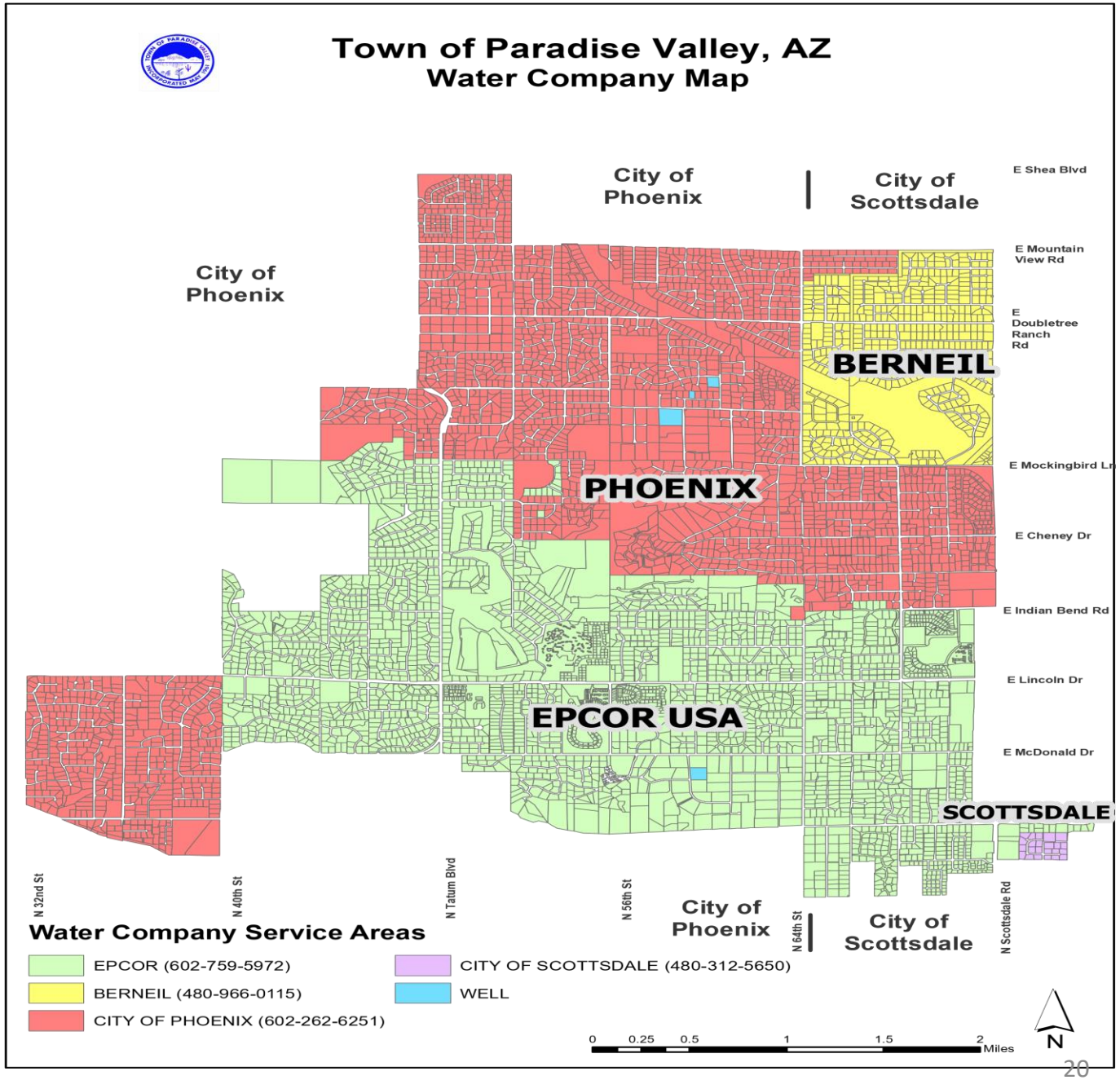
AS CAP WATER BECOMES LESS AVAILABLE, CENTRAL ARIZONA WILL BE FORCED TO RELY MORE AND MORE ON GROUNDWATER, INCREASING THE URGENCY TO BETTER MANAGE IT AS A SAVINGS ACCOUNT FOR A DRYER FUTURE.

WHAT DOES THIS MEAN FOR THE TOWN OF PARADISE VALLEY?

THE TOWN OF PARADISE VALLEY RELIES PARTLY ON GROUNDWATER

TOWN IS SERVED BY 4 WATER PROVIDERS:

- EPCOR WATER COMPANY
- CITY OF PHOENIX
- CITY OF SCOTTSDALE
- BERNEIL WATER COMPANY



GROUNDWATER PUMPED IN 2020*

- EPCOR PV: 8,815 ACRE-FEET
- PHOENIX: 3,667 ACRE-FEET (Entire service area of the City)
- SCOTTSDALE: 3,486 ACRE-FEEET (Entire service area of the City)
- BERNEIL: 1,495 ACRE-FEET

*ADWR Annual Report 2020

Arizona Water Blueprint

azwaterblueprint.asu.edu

Groundwater Level Change App

Arizona Water Blueprint

support decision making

effective policy

areas of concern

data gaps

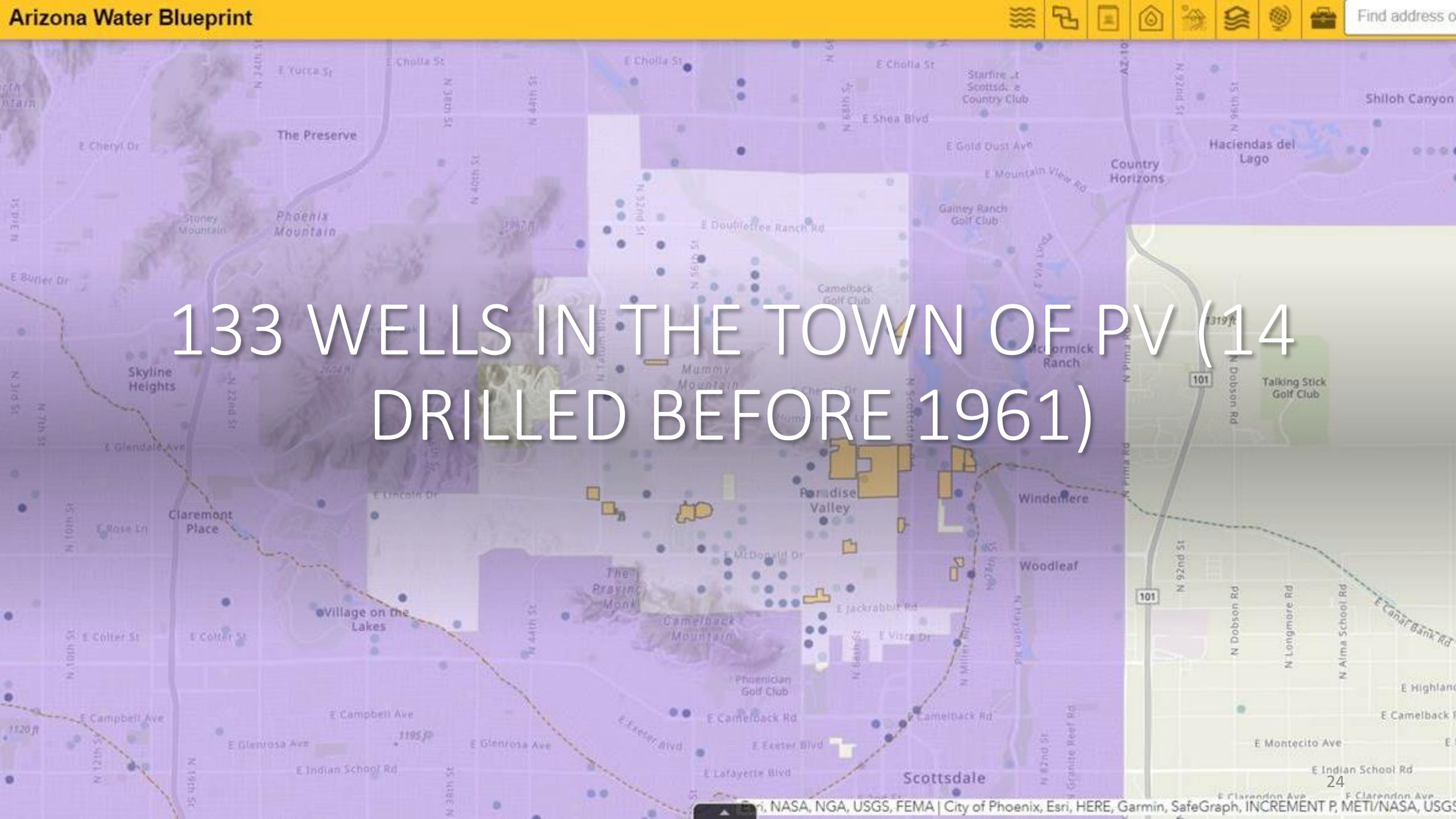
Visualizing changes in groundwater levels

general public

opportunities

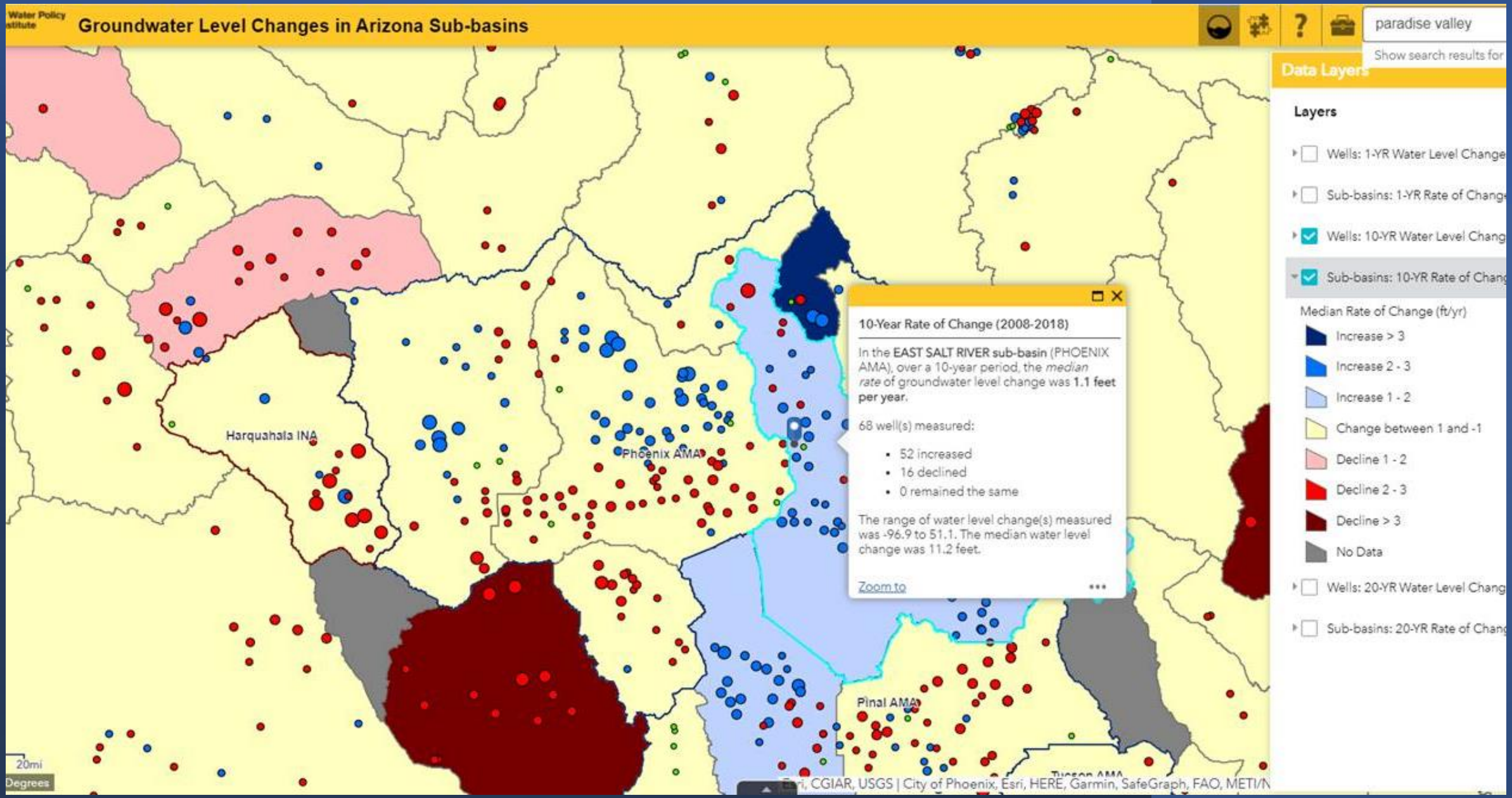
water managers

decision makers

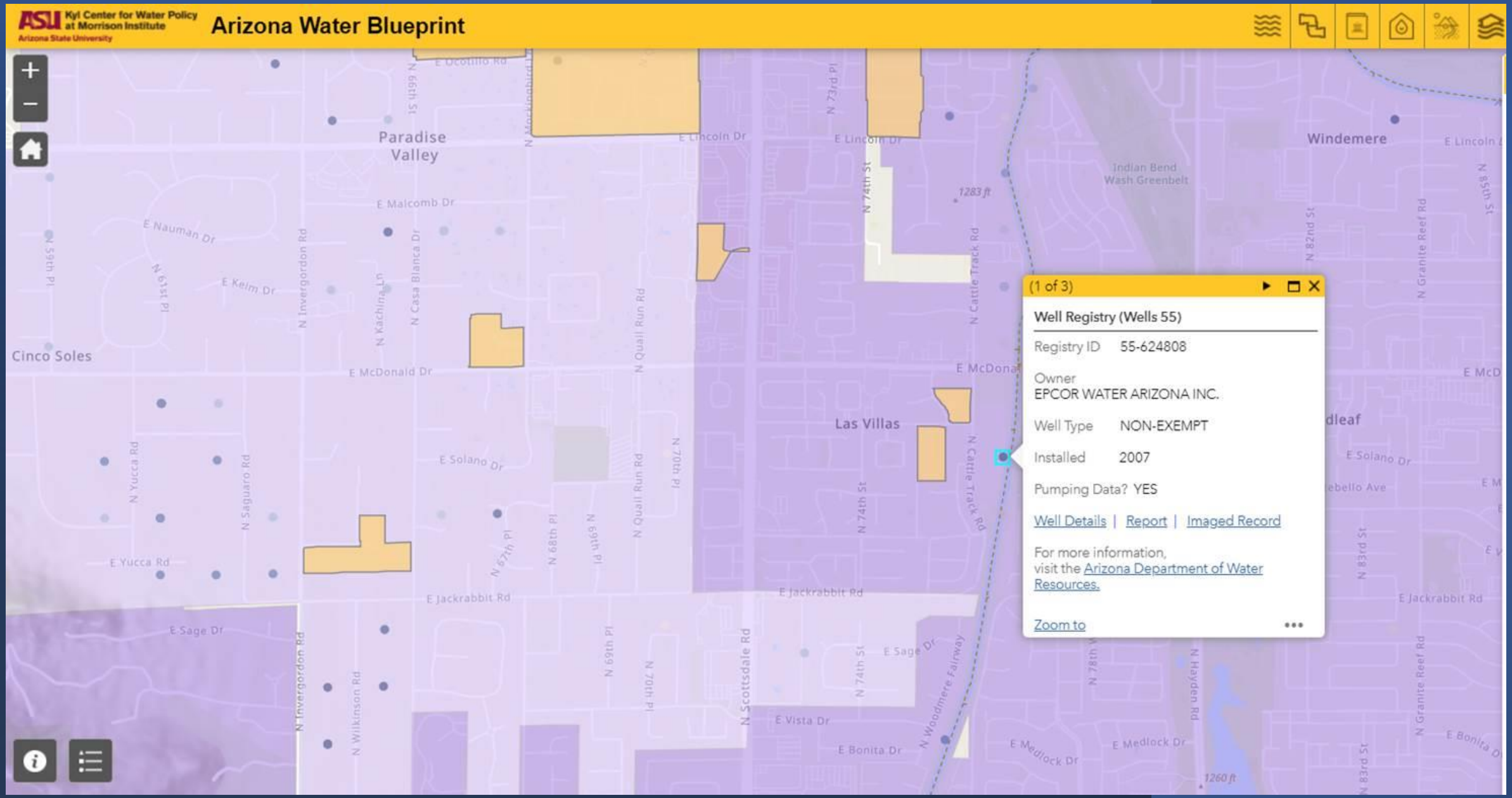


133 WELLS IN THE TOWN OF PV (14 DRILLED BEFORE 1961)

EAST SALT RIVER VALLEY SUBBASIN OF PHOENIX AMA



MEDIAN WATER LEVEL CHANGE = 1.1 FEET PER YEAR INCREASE


Kyl Center for Water Policy at Morrison Institute
Arizona State University
Arizona Water Blueprint
Paradise Valley
Cinco Soles
Las Villas
Windemere
Indian Bend Wash Greenbelt
E Lincoln Dr
E Malcomb Dr
E Nauman Dr
E Kelm Dr
E McDonald Dr
E Solano Dr
E Yucca Rd
E Jackrabbit Rd
E Sage Dr
E Vista Dr
E Bonita Dr
E Medlock Dr
N Cattle Track Rd
N 74th St
N Quail Run Rd
N Scottsdale Rd
N Invergordon Rd
N Granite Reef Rd
1283 ft
1260 ft
(1 of 3)
Well Registry (Wells 55)
Registry ID 55-624808
Owner
EPCOR WATER ARIZONA INC.
Well Type NON-EXEMPT
Installed 2007
Pumping Data? YES
Well Details | Report | Imaged Record
For more information, visit the Arizona Department of Water Resources.
Zoom to

WHAT ABOUT CONSERVATION?

new.azwater.gov

Visit OpenBooks | Ombudsman-Citizens Aide | Get the facts on COVID-19 | AZ.Gov | az.gov

Arizona Department of Water Resources

Protecting & Enhancing Arizona's Water Supplies For Current And Future Generations.

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SUMMARY

Municipal water providers are cities, towns, or private water companies that supply water for non-irrigation uses. There are currently 310 municipal providers in Arizona's 5 Active Management Areas. Municipal providers are categorized as one of the following:

- Large Provider- delivers more than 250 acre-feet of water per year
- Small Provider- delivers less than 250 acre-feet of water per year
- Institutional Provider- supply more than 90% of their total water deliveries to non-residential water users (prisons, hospitals, military installations, airparks)
- Large Untreated Provider- a provider that as of 1/1/1990 was serving untreated water to at least 500 persons or supplying at least 100 acre-feet per year of untreated water

Did you know?

- Municipal water use accounts for about 20% of Arizona's water demand
- Municipal providers within the AMAs have decreased their groundwater withdrawals by 26% from 2000 to 2019
- On average, 1 acre-foot of water serves 3.5 single-family homes across all AMAs

MUNICIPAL CONSERVATION REQUIREMENTS ›

DOCUMENTS ›

- Overview
- Phoenix AMA
- Pinal AMA
- Prescott AMA
- Santa Cruz AMA
- Tucson AMA
- AMA Conservation
- AMA Data
- AMA Queries and Reports
- Groundwater Rights Map
- GUAC Meetings
- BMP Advisory Committee Meetings
- Management Plans
- Agricultural Program
- Industrial Program
- Municipal Program
- Online Annual Reports
- Water Management Assistance Program
- FAQs
- Contact Us

MUNICIPAL CONSERVATION REQUIREMENTS

- ADOPTED BY ADWR IN MANAGEMENT PLANS FOR EACH AMA
- APPLY TO WATER PROVIDERS
- GALLONS PER CAPITA PER DAY (GPCD) TARGET OR
- BEST MANAGEMENT PRACTICES PROGRAM (Public information program, conservation campaign, special events, conservation training, Xeriscape demonstration garden, landscape consultation, system leak detection, ordinances, etc.)

INDUSTRIAL CONSERVATION PROGRAM

INCLUDES GOLF COURSES, PARKS, SCHOOL GROUNDS, NON-RESIDENTIAL FACILITIES WITH A WATER-INTENSIVE LANDSCAPED AREA IN EXCESS OF TEN ACRES PLANTED AFTER JANUARY 1, 1990.

MUST COMPLY WITH MAXIMUM ANNUAL WATER ALLOTMENTS.

Ways for residents to save water

Arizona Department of Water Resources

Protecting Arizona's Water supply For Its Next Century

WATER CONSERVATION TIPS FOR ARIZONA RESIDENTS

The Arizona Department of Water Resources is committed to helping Arizona residents conserve water. Using these conservation tips is just one of the ways that you can contribute to Arizona's culture of conservation.

Why Conserve?

Our supply of water is limited and our population continues to grow. Conservation efforts and life-long water saving behaviors will help ensure that we will have enough water for ourselves and for future generations. Thank you for using water responsibly.

Conserve Outside

- Plant low-water use and drought-tolerant grasses, ground covers, shrubs and trees.
- Group plants according to their water needs.
- Minimize turf/grass areas.
- Check all hoses, connectors, and spigots regularly. Repair leaks as necessary.
- Install a water-efficient drip irrigation system.
- Regularly check sprinkler systems and timing devices to be sure they are operating properly.
- Adjust sprinklers so only landscape is watered and not the house, sidewalk or street.
- Minimize evaporation by watering during the early morning hours when temperatures are cooler.
- Reduce evaporation by using a 2-3 inch layer of mulch around plants.
- Water deeply but less frequently to create healthier and deeper root systems.
- Weed yards and gardens regularly. Weeds compete with other plants for water.
- Track how much rain and irrigation your yard receives. Adjust watering schedules to the season.
- Shut off automatic watering systems when it rains or install a rain shut-off device.
- Collect and use rain water for watering your landscape.
- Install gutters and direct downspouts toward shrubs or trees.
- Direct the bleed-off water drain from an evaporative cooler to trees or shrubs.
- Water plants only when necessary. More plants die from over-watering than from under-watering.
- Avoid over fertilizing. The application of fertilizers increases plant growth and the need for water. It is also a source of water pollution.
- Aerate lawns to better absorb water. Water only as rapidly as the soil can absorb the water.
- Use a broom instead of a hose to clean driveways, sidewalks, streets and parking areas.
- Equip swimming pools, fountains, ponds and other ornamental water features with re-circulating pumps.
- Reduce evaporation by using covers on swimming pools and spas.
- Use a commercial car wash that recycles water. If washing a car at home, use a bucket with soapy water, and either turn off the water while soaping or use a shut-off hose nozzle.

Conserve Inside

- Check faucets and pipes for leaks. Repair or replace as necessary.
- Replace high-volume toilets (3.5 gl. or more per flush) with the new standard of 1.6, or consider other high efficiency or dual flush models. Gallons per flush should be listed inside the tank or lid.
- Put food coloring in the toilet tank. If, without flushing, the color appears in the bowl, there is a leak. Adjust or replace the flush valve and flapper as necessary.
- When washing dishes by hand, do not let the water run. Fill one sink with wash water and the other with rinse water.
- Do not pre-rinse dishes unless you need to. Most new dishwashers do not require pre-rinsing.
- Run your washing machine and dishwasher only when they have a full load or adjust water levels for smaller loads.
- Choose water-saving models when purchasing new appliances.
- Make sure each faucet has an aerator.
- Minimize the use of kitchen sink garbage disposals; they require a lot of water to operate properly.
- Check your water meter and bill to track water usage. If usage increases substantially, check for leaks and/or adjust the irrigation system.
- Install water-saving showerheads or flow restrictors.
- Keep showers under five minutes.
- Reuse clean household water. Collect the water that is wasted while waiting for the hot water to reach the faucet or showerhead and use it to water plants.
- Consider installing a hot water re-circulating system.
- Use the minimum amount of water needed for a bath by closing the drain first, filling the tub only 1/3 full and then adjusting the temperature as the tub fills.
- Wash produce in the sink or a pan that is partially filled with water instead of running water from the tap. Use the wash water to water plants.
- Insulate hot water pipes so water does not have to run as long to get hot water to the faucet.
- Turn water treatment and softener units off while on vacation.
- Install water-softening systems only when necessary. Save water by running the minimum number of regenerations necessary to maintain water softness. These units consume 15-120 gallons of water per 1,000 gallons processed.
- Limit use of reverse osmosis (RO) water purification systems. To get one gallon of RO water, most units waste 2-9 gallons of drinking water.

Conserve In Your Community

- Support projects that use reclaimed wastewater for irrigation and other uses.
- Encourage friends and neighbors to be part of a water-conscious community.
- Encourage local educators and government to help develop and promote a water conservation ethic among children and adults.
- Report significant water losses from broken pipes, open hydrants and errant sprinklers to the property owner or water provider.
- Teach children the importance of using water efficiently.
- Do one thing every day to save water. Every person can make a difference.

For additional information on water conservation:

www.azwater.gov/conservation

(602) 771-8585

Arizona Department of Water Resources

2008 (reformatted 2015)

https://new.azwater.gov/sites/default/files/media/Conservation_Tips_2015_1.pdf

INDOORS

- INSTALL LOW-WATER USING FIXTURES AND APPLIANCES (LOOK FOR WATERSMART LOGO)
- RUN WASHING MACHINE AND DISHWASHER ONLY WHEN FULL
- CHECK FAUCETS AND PIPES FOR LEAKS
- MINIMIZE USE OF GARBAGE DISPOSALS
- KEEP SHOWERS UNDER FIVE MINUTES

OUTDOORS

- UP TO 70% OF ALL WATER USE OCCURS OUTDOORS
- INSTALL LOW-WATER USE LANDSCAPING
- INSTALL DRIP IRRIGATION AND AUTOMATIC IRRIGATION CONTROLLERS
- CHECK FOR LEAKS
- WATER ONLY WHEN NECESSARY
- USE A BROOM INSTEAD OF A HOSE TO CLEAN SIDEWALKS, ETC.
- USE A COMMERCIAL CAR WASH THAT RECYCLES WATER

Arizona Department of Water Resources

Phoenix Active Management Area

Low-Water-Use/Drought-Tolerant Plant List

Low-Water-Use/ Drought-Tolerant Plant List

Official Regulatory List for the Phoenix Active Management Area
Fourth Management Plan

Arizona Department of Water Resources
1110 West Washington St. Ste. 310
Phoenix, AZ 85007
www.azwater.gov
602-771-8500

QUESTIONS?