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**Aapresid**

CON LA FUERZA DE  
  
Expoagro

**CÓDIGO  
ABIERTO**

Sharon B. Megdal, PhD, The University of Arizona  
Water Resources Research Center

# Introduction to Panel on "No-Till Farming in semi-arid areas" Overview of Water and Agriculture in Arizona, USA

Farming uses significant surface water and  
groundwater in Arizona, a semi-arid state in the  
Southwestern United States



THE UNIVERSITY OF ARIZONA  
COOPERATIVE EXTENSION

**WATER RESOURCES  
RESEARCH CENTER**



# Panelists

Sharon B. Megdal, PhD is Director, Water Resources Research Center and Professor, Environmental Science, the University of Arizona



This is work partially funded by USDA NIFA Grant Award # 2021-68012-35914

Ron Rayner is a third-generation farmer and a partner in “A Tumbling T Ranches”



Source: <https://www.farmprogress.com/conservation-and-sustainability/ron-rayner-farm-honored-for-conservation-as-high-cotton-award-winner>

Debankur Sanyal, PhD is Assistant Professor, Soil Health, Department of Environmental Science, the University of Arizona



# Arizona is in the Colorado River Basin



**Arizona**

## Colorado River Basin

- About 647,000 km<sup>2</sup>
- 7 states in the USA
  - If a nation, California's would be 5<sup>th</sup> or 6<sup>th</sup> largest economy
  - Los Angeles, California, is the 2<sup>nd</sup> largest city in the USA; Phoenix, Arizona, is the 5<sup>th</sup>
- 2 states in Mexico
- 30 Native Nations (Indigenous)
- ~ 40 million people

# Hoover Dam and Lake Mead Affected by Megadrought



Lake Mead behind Hoover Dam

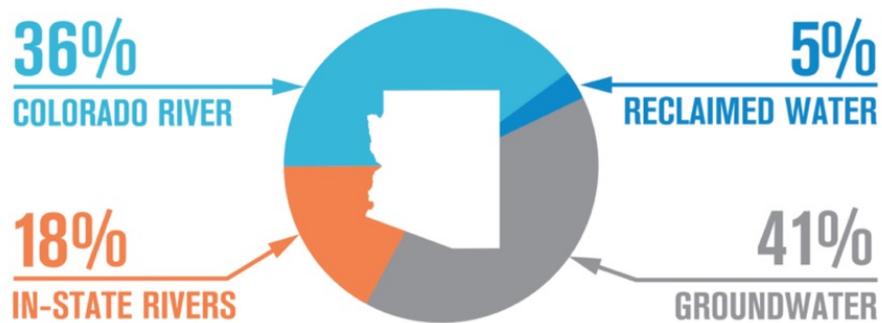


Photo: SB Megdal-Dec.2022

Snowpack vs. Runoff (% of average)		
	Snowpack	Runoff
2020	105%	61%
2021	86%	37%
2022	90%	63%
2023	161%	140%
2024	114%	83%

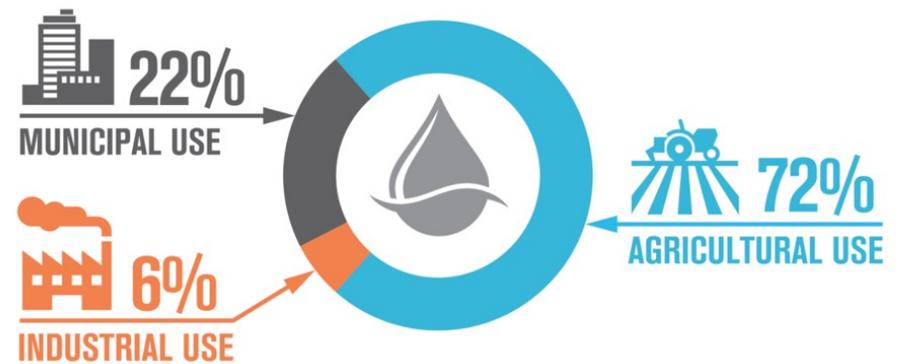
# Arizona's water sources and demand

## ARIZONA'S WATER SUPPLY



SOURCE: ADWR, 2020

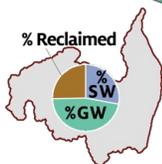
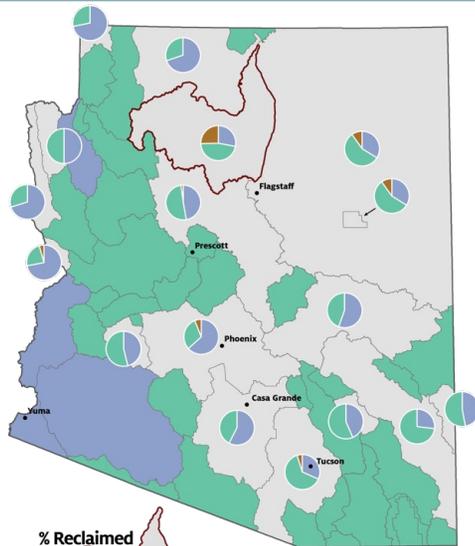
## ARIZONA'S WATER USE BY SECTOR (2019)



SOURCE: ADWR, 2020

# Across Arizona, water situations differ

## WATER USE BY GROUNDWATER BASIN

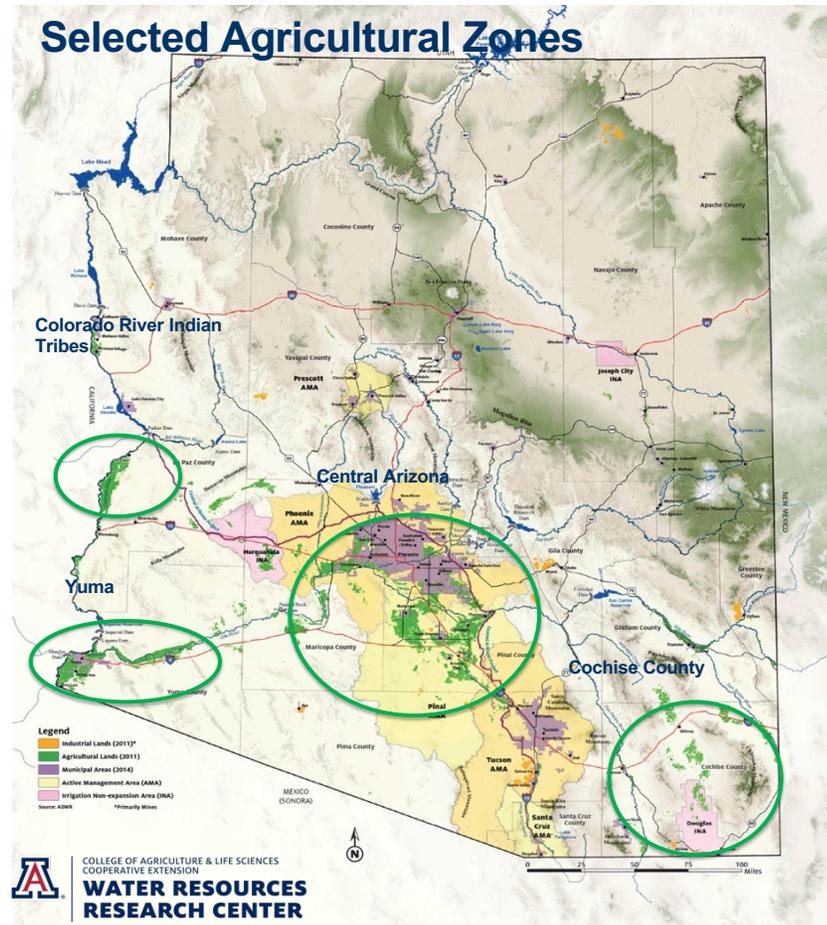


Basin with mixed water use

Basin with >75% Surface Water (SW) Use

Basin with >75% Groundwater (GW) Use

Source: ADWR 2016



# Hear now from Mr. Ron Rayner, who will be followed by Dr. Debankur Sanyal

Ron Rayner is a third-generation farmer and a partner in A Tumbling T Ranches.



Source: <https://www.farmprogress.com/conservation-and-sustainability/rayner-farm-honored-for-conservation-as-high-cotton-award-winner>

Debankur Sanyal, PhD is Assistant Professor, Soil Health, Department of Environmental Science, the University of Arizona



Muchas Gracias  
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# CÓDIGO ABIERTO

To learn more:  
Join session Thursday at 10:00  
How Water Supply Challenges are  
Impacting Agriculture in Arizona, USA

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