



# BABBITT CENTER FOR LAND AND WATER POLICY

*A Center of the Lincoln Institute of Land Policy*

## Arizona Groundwater Management Reflections & Lesson Learned

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## Water Management

### 1973 Water Adequacy Statute

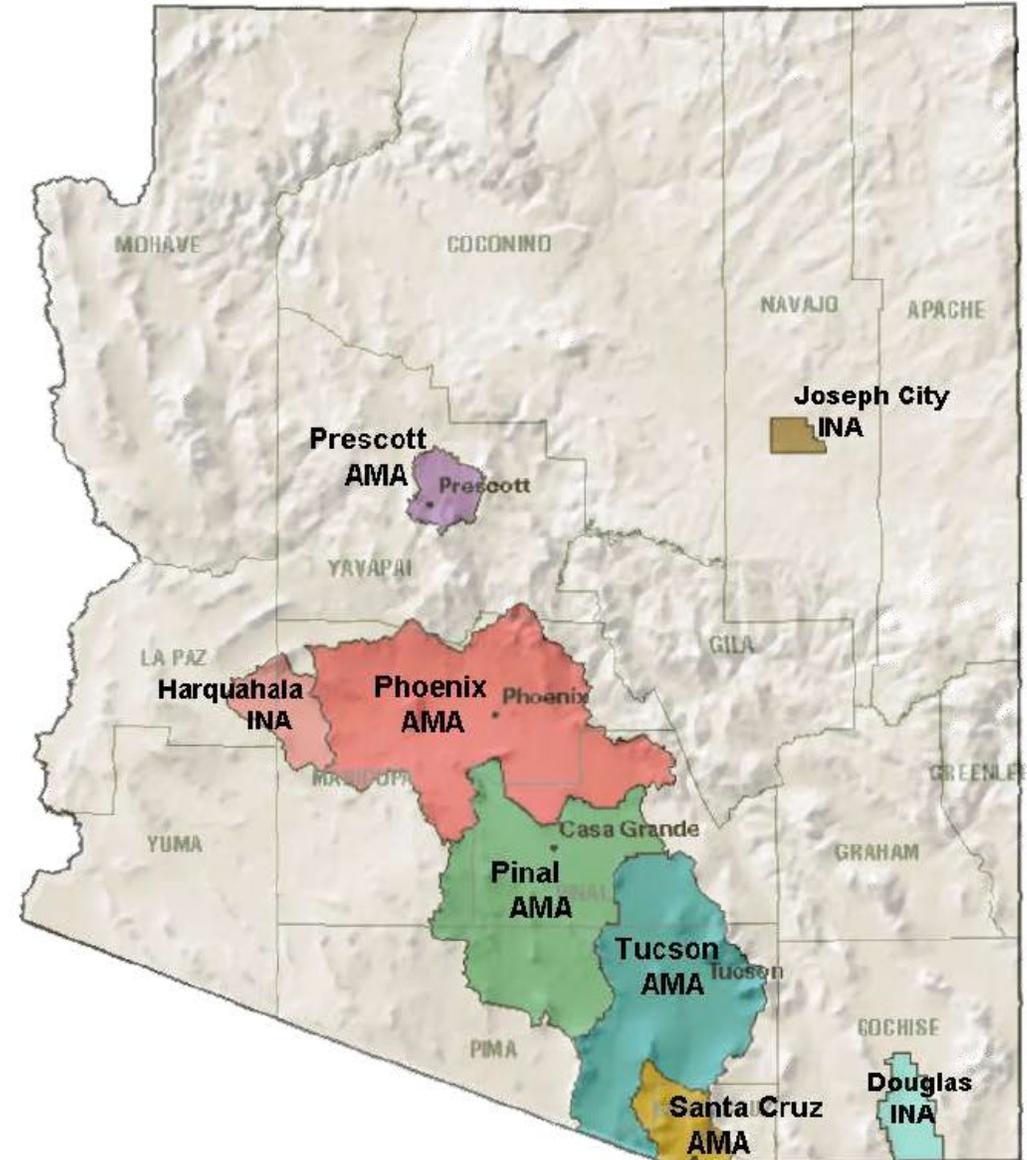
### 1980 Groundwater Management Act

- Established the Arizona Department of Water Resources (ADWR)
- Established Active Management Areas (AMAs) & Irrigation Non-Expansion Areas (INAs)
- Established Assured and Adequate Water Supply Programs

### 1994 – Underground Water Storage, Savings and Replenishment Management Act

### 1996 – Arizona Water Banking Authority

### 2007 – SB1575 – Mandatory Adequacy





# Arizona Water Management Policy

## Evolution Shaped By

- Resource Availability
- Economics of Acquiring, Treating & Distributing
- Cultural Foundations for Resource Use
- Legal Framework of Ownership & Management
- Politics of Area & Major Players



# Arizona Groundwater Management Act

## Drivers

- Groundwater Overdraft
- Secure CAP Authorization
- Legal Conflicts over Water Rights (FICO)

## Goals

- Control severe overdraft occurring in certain parts of Arizona.
- Allocate limited groundwater resources to meet changing needs
- Augment Arizona's groundwater supplies.



# Arizona's Management Framework..

- Regulatory Approach
- Management Areas vs Statewide
- State vs Regional/Local Control
- Groundwater / Surface Water Dichotomy
- Rights System with Grandfathering

..... **& Consequences**

|                        |                     |
|------------------------|---------------------|
|                        |                     |
| <i>Re-distributive</i> | <i>Regulatory</i>   |
| <i>Constituent</i>     | <i>Distributive</i> |
|                        |                     |



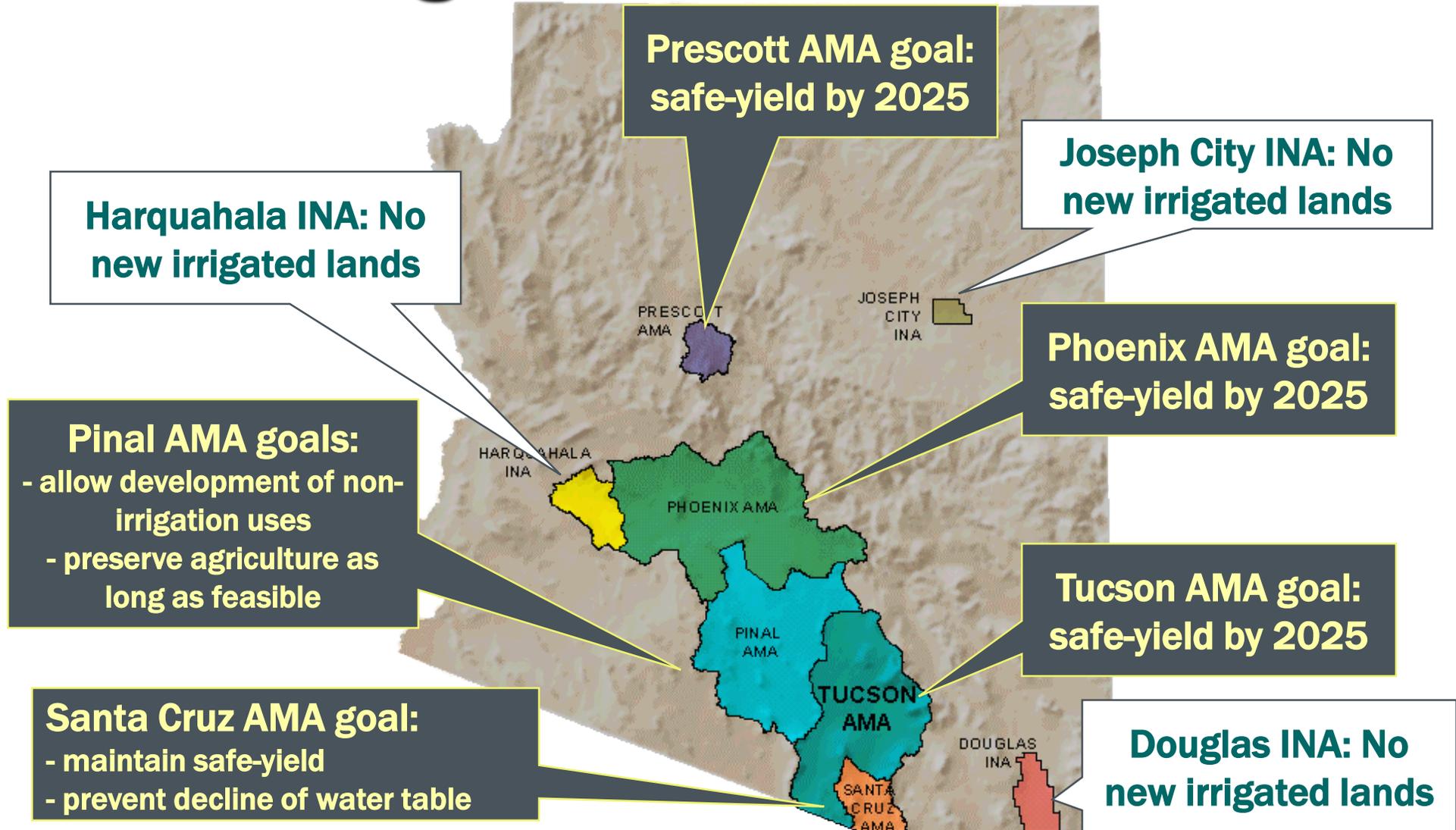
# Arizona Water Management

## Management Structure

**State-Wide Provisions  
Irrigation Non-Expansion Areas; and  
Active Management Areas**

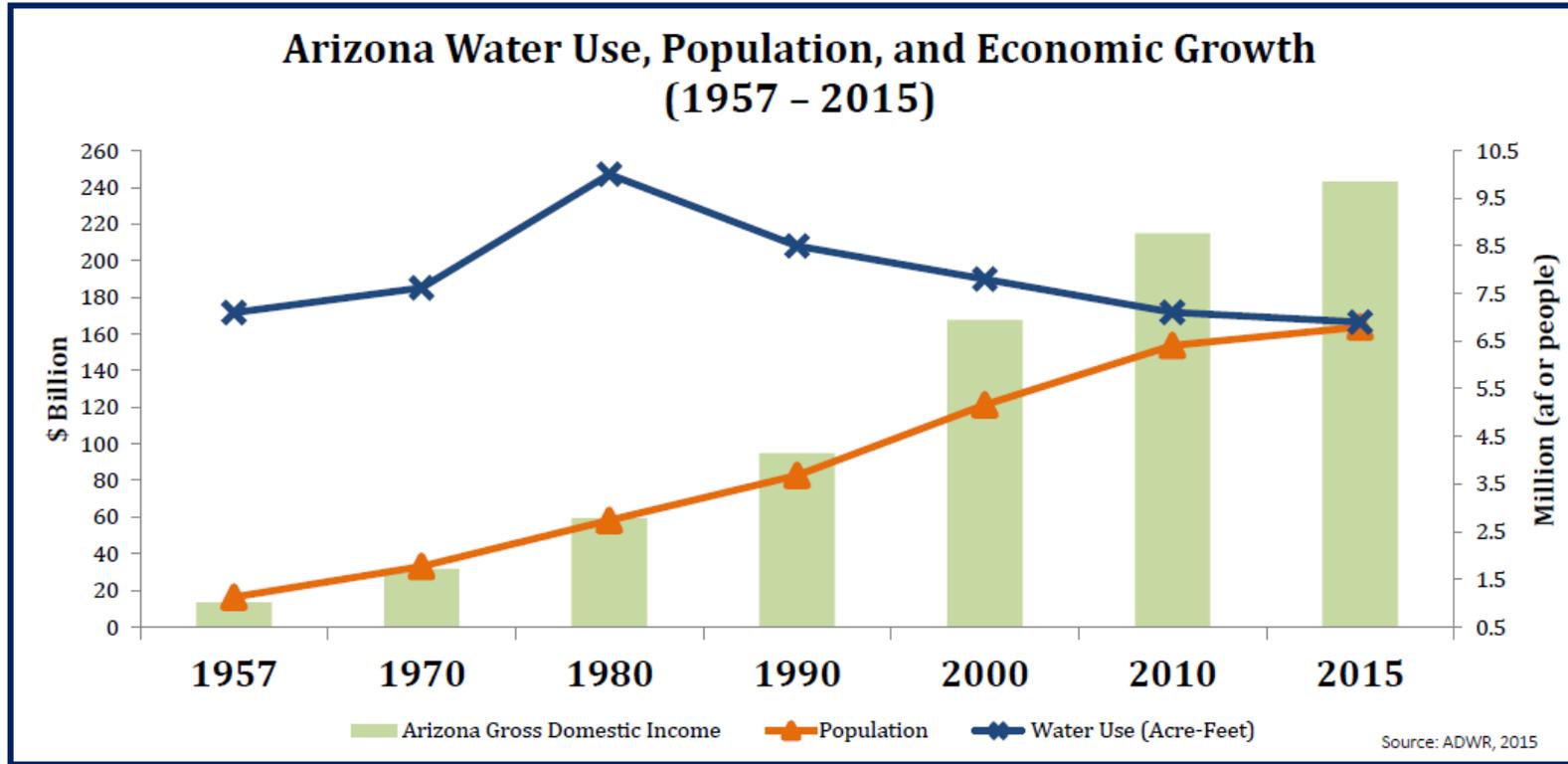


# Water Management Areas





# Arizona's Water Management Success



| Timeframe             | Total Water Use<br>(in million acre-feet) | Population<br>(in millions) | Gross Domestic Income<br>(in billions) |
|-----------------------|---|-----------------------------|--|
| 1957                  | 7.1maf                                    | 1.1                         | \$13.4                                 |
| 2015                  | 6.9 maf                                   | 6.8                         | \$243.1                                |
| Change from 1957-2015 | -3%                                       | 504%                        | 1,716%                                 |





# ARIZONA'S WATER MANAGEMENT TOOLS

## Evolution of Programs

- Target/Allocation Tied to Conservation Potential
- Prescriptive Program Options Added
- Increased Flexibility & Complexity
- Regulation of Additional Sectors
- De-regulation of Small Rights
- Increased Emphasis on Supply Source
- Increased Potential for Tech Assistance
- Challenge of Maintaining and/or Enhancing Programs



# Water Management Policy

## Governance Questions & Challenges

|                        |                     |
|------------------------|---------------------|
| <i>Re-distributive</i> | <i>Regulatory</i>   |
| <i>Constituent</i>     | <i>Distributive</i> |

- Appropriate Level of Government for Different Activities
  - Assured Supply – need state mandates
  - Conservation – closer to end user the better
- Policy Approach – Politics Linkage
  - Regulate vs Partner vs Incentivize
  - Beware of Unintended Consequences (Youngs Farm)
  - Keep Water Policy Isolated from Broader Political Dynamics
- Capitalize on Opportunity & Crisis



# Current & Emerging Challenges

- Demand UP .... Supply DOWN .... Safe-Yield Goal
- The Structural Deficit plus Climate Impacts
- Impact of Reduced Supply on GW Mgmt Programs
- Future of Agriculture
- Pressure for Water Transfers
- Rural vs Urban Water Uses
- GW Mgmt Approaches for Rural Areas
- Environmental / Habitat Uses
- Multi-Jurisdictional – Tribal - Bi-National Coordination and Conflict
- Governance – Need More or Less Engagement
- Increasing Uncertainty
- Land is a Key





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