



— BUREAU OF —
RECLAMATION

Adaptation Strategy Workshop Lower Santa Cruz River Basin Study

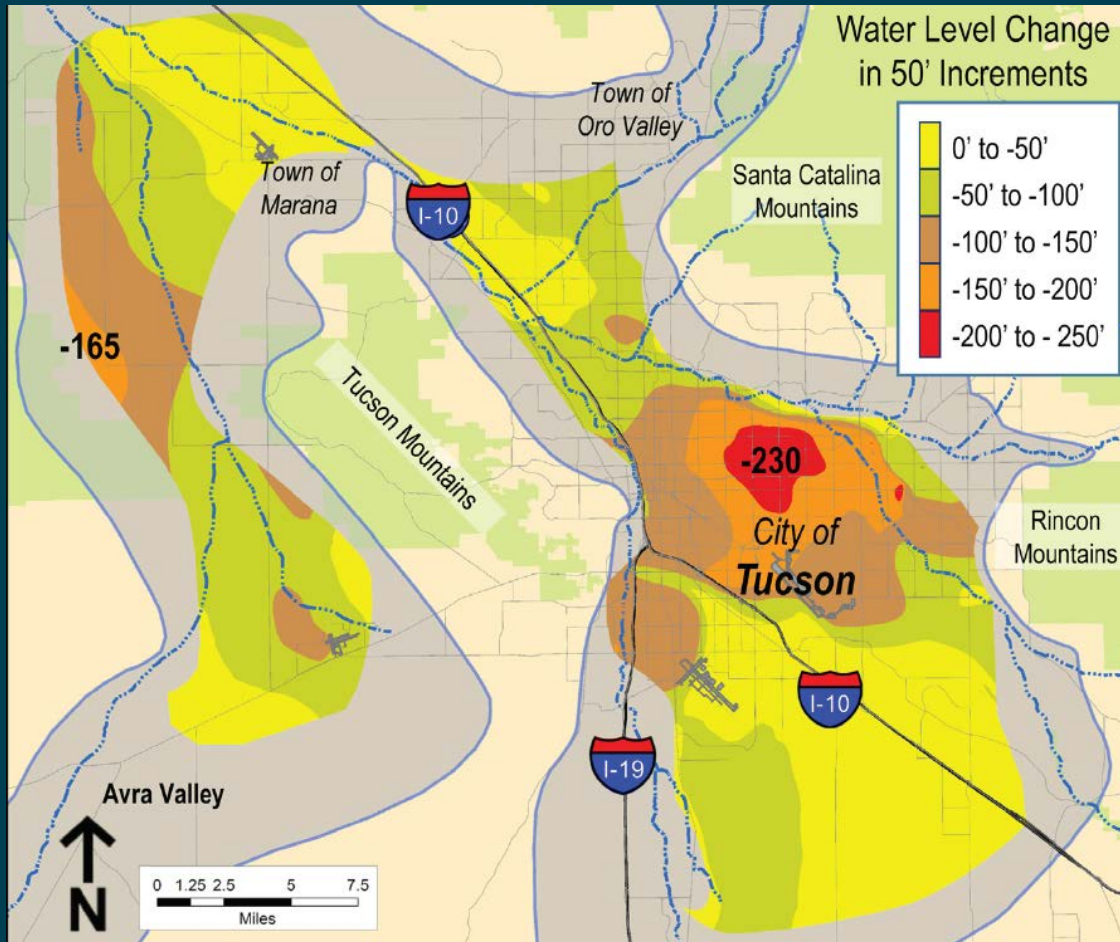
Eve Halper

Water Resources Planner

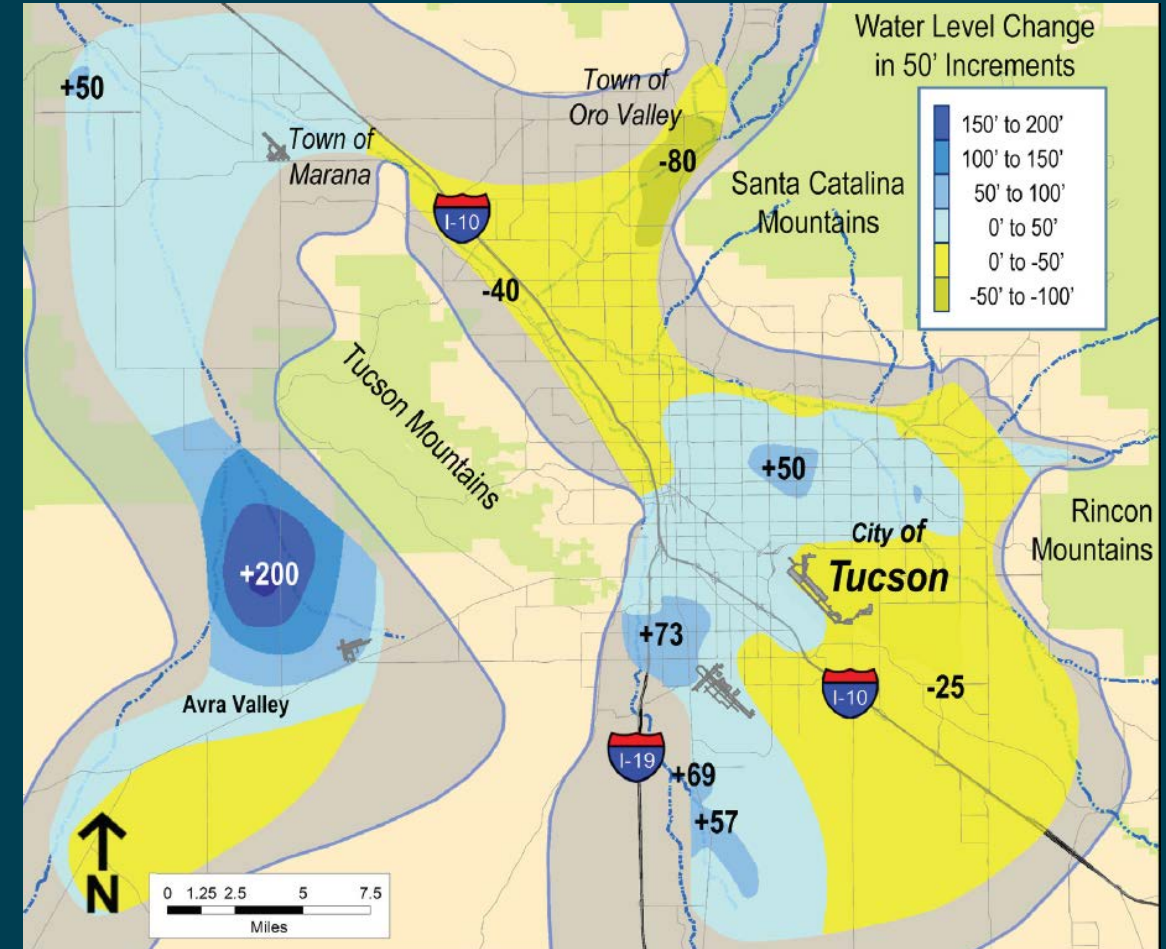
Reclamation Phoenix Area Office

November 21, 2019

Why a study in the Tucson area?



1940 - 1998

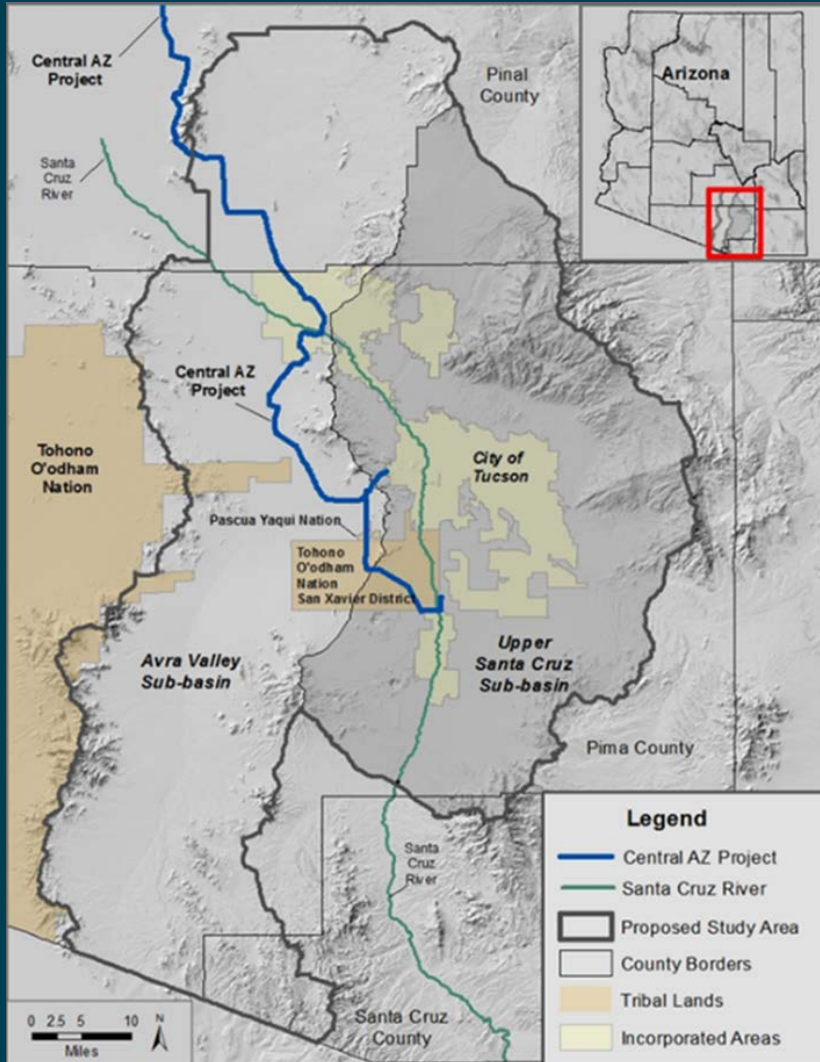


2000 - 2016

Tucson Basin Water Level Changes

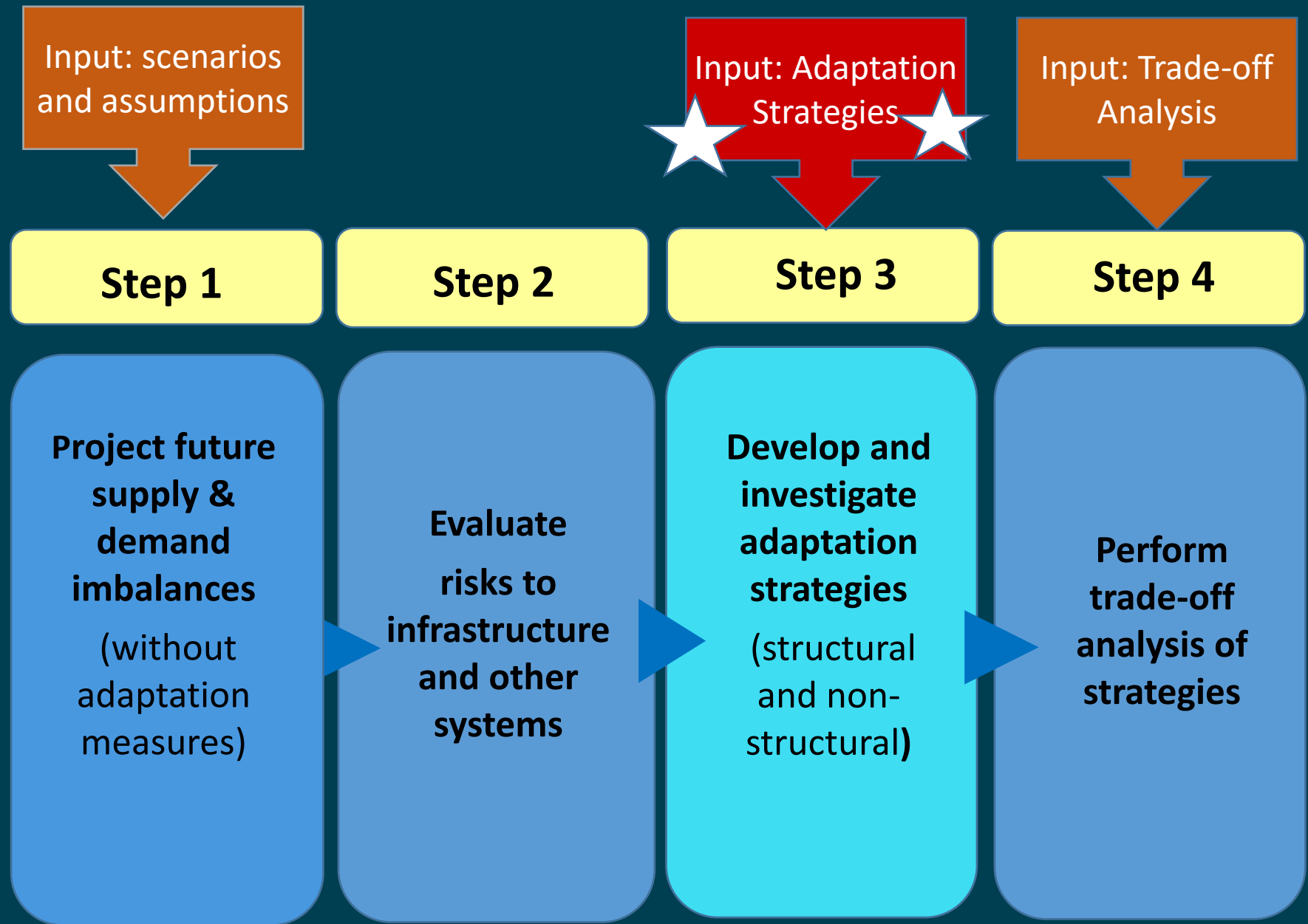
Lower Santa Cruz River Basin Study Objectives

1. Identify Where Physical Water Resources are Needed to Mitigate Supply-Demand Imbalances
2. Develop Strategies to Improve Water Reliability for Municipal, Industrial, Agricultural and Environmental Sectors



LSCR Basin Study Overview

Four
Required
Elements_r



Risk Management Framework

- Risk is a threat to something of value.
- Climate change is one of many risks faced by water users.
- We have developed high-quality information on the range of climate change in the study area (Step 1)
- How will this change in risk factors affect the reliability of water supplies? (Step 2)
- What can be done to address these anticipated risks? (Step 3)



Adaptation Strategies



Purpose of first adaptation strategy workshop:

- Begin brainstorming a wide variety of adaptation strategies using existing knowledge
- Gather available information pertaining to strategies
- Obtain stakeholder feedback on screening criteria
- Prepare to apply strategies to forthcoming groundwater model results



Water Use by Geography and Sector

1. Geographic Aspects of Water Supply Risks

- a. How management strategies have affected water levels in the study area
- b. Framing of climate risks
- c. High level review of climate change scenarios and projections
- d. What are the geographic areas of concern?

2. Sectoral Aspects of Water Supply Risks

- a) Municipal Water Supplies
- b) Local Environmental Conditions / Riparian Areas
- c) Agriculture
- d) Livability



Brainstorming Adaptation Strategies Can:

- Cover large or small areas of the study area
- Vary by amount of time it takes to implement them
- Address single risks or multiple risks
- Provide additional benefits
- Can be policies or other institutional changes
- Can involve physical structures
- changes in the operation of existing infrastructure
- Adapt existing structures or consist of new construction



What's next?

- Develop screening criteria to identify strategies that are:
 - Most promising / of greatest interest
 - Would benefit from additional technical analysis
- Number of strategies to be analyzed will depend on:
 - Level of analysis
 - Amount of existing information
 - Available resources
- Trade-off analysis



LSCR Basin Study – Key Decisions

1. Use the best available climate projections to assess the range of risks to major water users in the study area
2. Incorporate local variability and seasonality into climate change projections
3. Include analysis of impacts to the environment, particularly riparian areas

