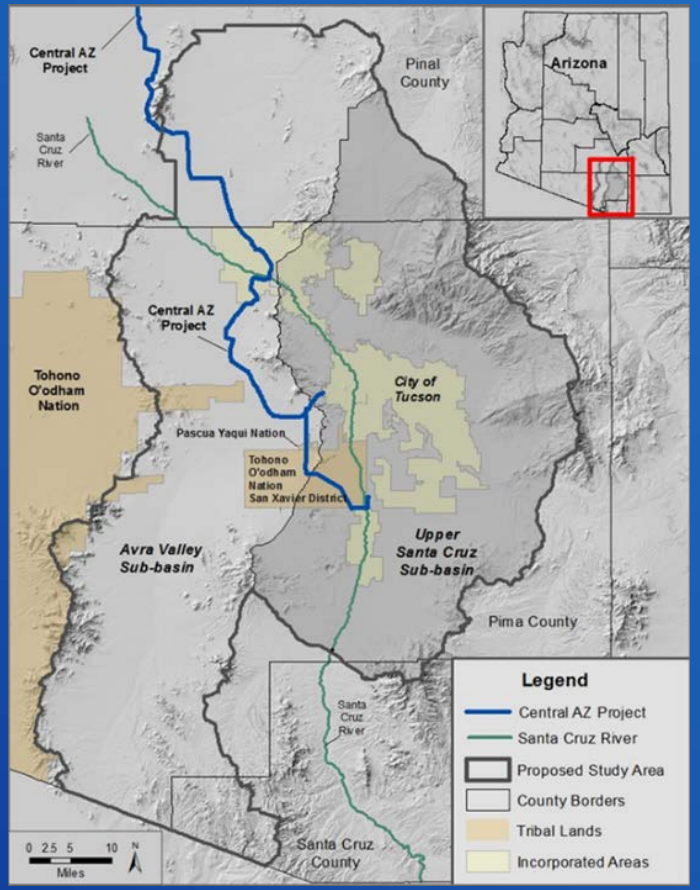
Lower Santa Cruz River Basin Study:

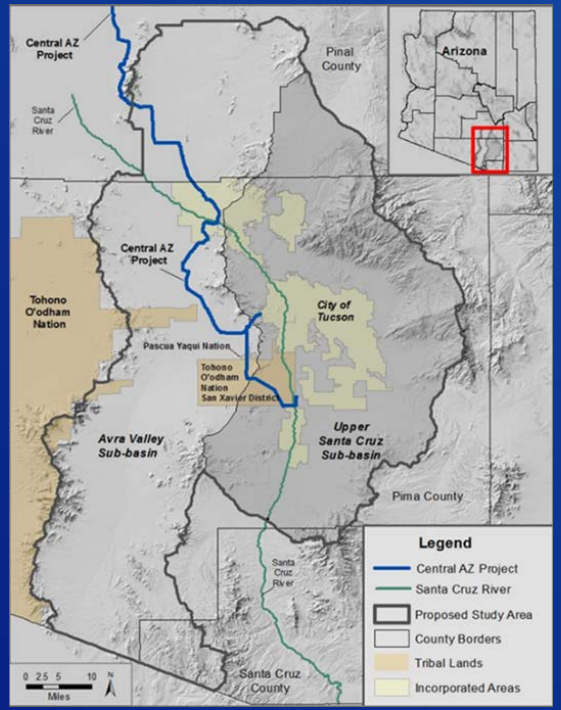
Demand Matrix Project Team Meeting #6



Eve Halper,
Natural Resources Specialist
Bureau of Reclamation
Stakeholder Advisors Meeting
April 24, 2017

RECLAMATION

Lower Santa Cruz River (LSCR) Basin Study Summary

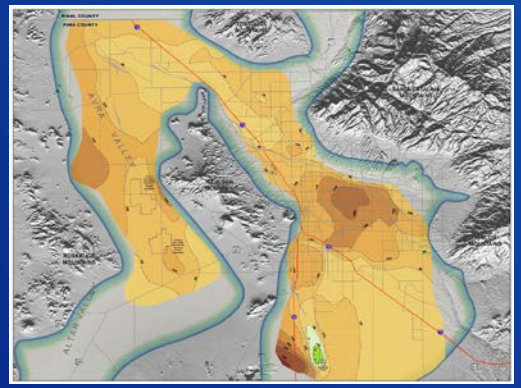


- Addresses the impacts of changing climate, population and other factors on water use through 2060
- Focuses on spatial distribution of water resources in the Tucson basin (Tucson Active Management Area)
- Includes analysis of environment (riparian areas)
- Employs a scenario approach to explore range of futures (with and without adaptation)
- Uses climate projections as input to groundwater and surface water models
- Incorporates Input from Public Stakeholders

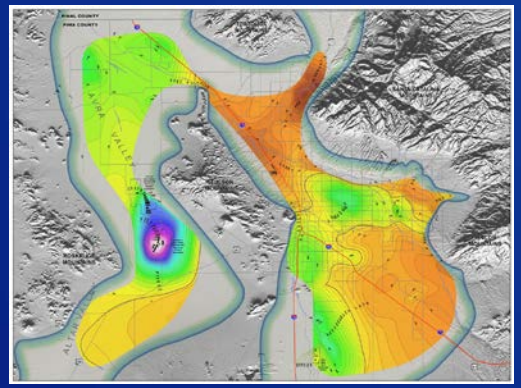
RECLAMATION

LSCR Basin Study Objectives

Tucson Basin Water Level Changes



1950 - 2000



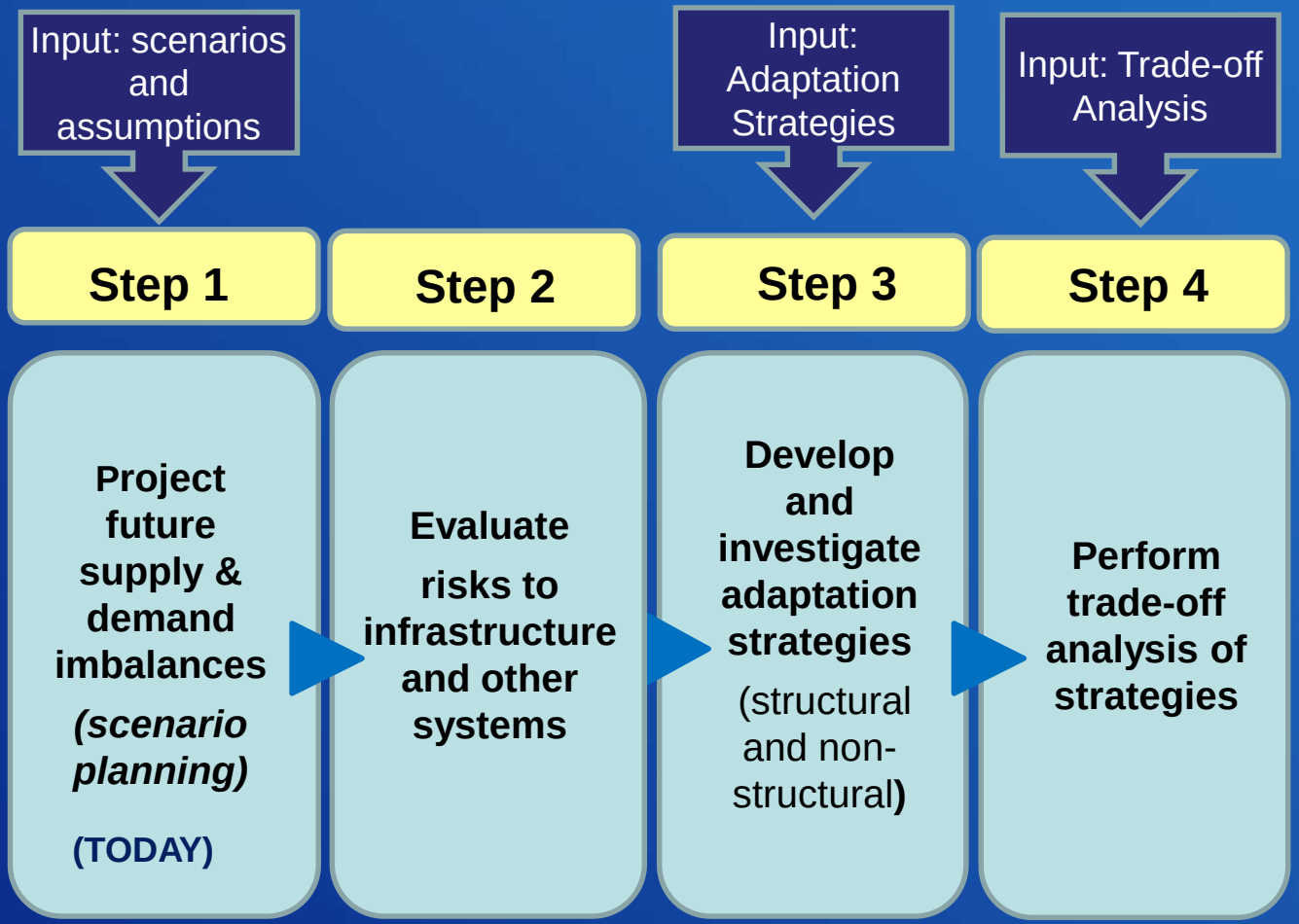
2000 - 2014

1) Identify Where Physical Water Resources are Needed to Mitigate Supply-Demand Imbalances

2) Develop Strategies to Improve Water Reliability for Municipal, Industrial, Tribal, Agricultural and Environmental Sectors

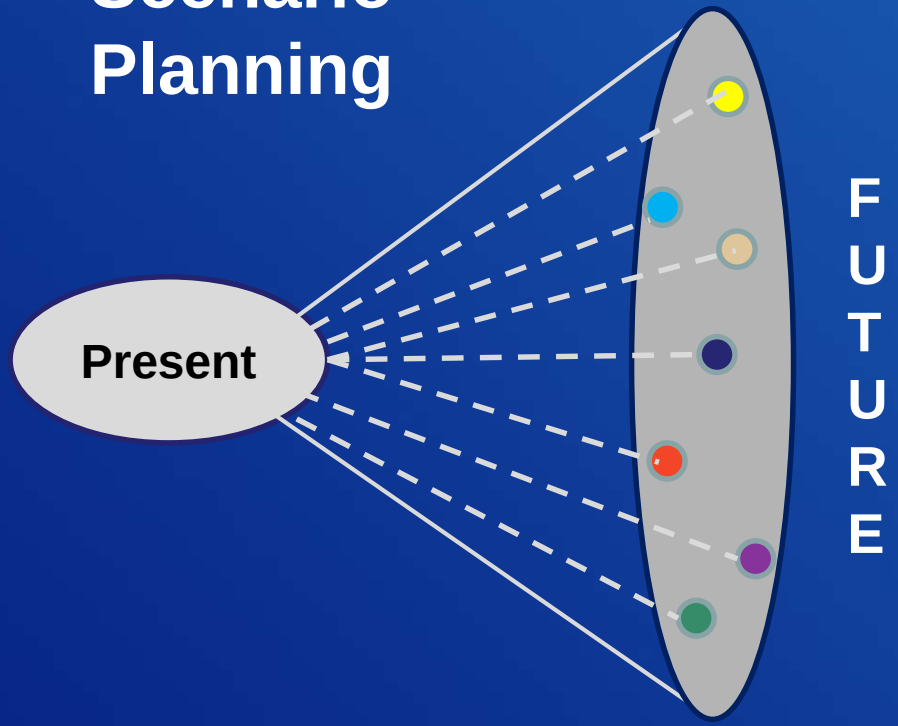
RECLAMATION

Public Involvement: Key Part of Process



RECLAMATION

Scenario Planning



Scenarios: plausible futures, based on consistent assumptions

Supply and Demand (TODAY)

CAP Deliveries	Municipal
Local Ground and Surface Water	Industrial
Recycled Water	Agricultural
Stormwater	Environmental (*Riparian ET*)

RECLAMATION

Scenarios Focus on Risk

“Base Case”
(w/o Climate Change)

Supply and Demand

“Best Case”

Supply and Demand

“Worse Case”

Supply and Demand

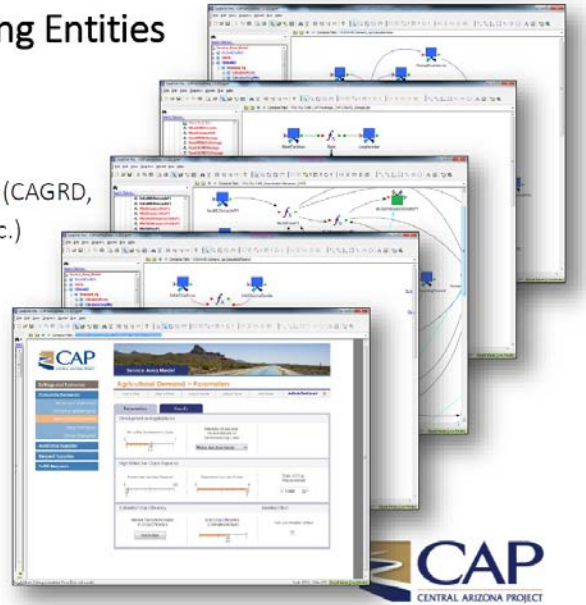
RECLAMATION

RECLAMATION

Socio-Economic Forces - CAP Service Area Model

CAP Service Area Model (CAP:SAM)

- All Major Water Using Entities
  - 80 Municipal Providers
  - 23 Irrigation Districts
  - 12 Tribes and Districts
  - 20+ other user categories (CAGRD, AWBA, Industrial users, etc.)
- 16 Water Supply Types
  - Includes Surface Water, Effluent, CAP, LTSC, Groundwater, Recovered Water, etc.
  - Incorporates shortage scenarios from Colorado River Simulation model (CRSS)



- Models municipal, agricultural and industrial demands
- Demand estimated by water provider
- Matches each demand with supplies in order of preference

RECLAMATION

Basin Study Next Steps

- Demand Matrix Input from Stakeholder Advisors-April 24
- Run Climate Projections through Hydrologic Models
- Select Best and Worst Case Climate / Hydrology Scenarios (with Public Input)
- Select Full Set of Scenarios (Supply, Demand, Climate) without Adaptation
- Run CAP:SAM and input to TAMA Groundwater Model for each scenario
- Assess Risks to Reliability under each Scenario