


The background of the slide is a light gray gradient with several realistic water droplets of various sizes scattered across it. The droplets have highlights and shadows, giving them a three-dimensional appearance. The main title is centered in the upper half of the slide.

USING WATERSIM TO EXPLORE WATER SUSTAINABILITY

RAY QUAY AND DAVID SAMPSON
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ARIZONA STATE UNIVERSITY

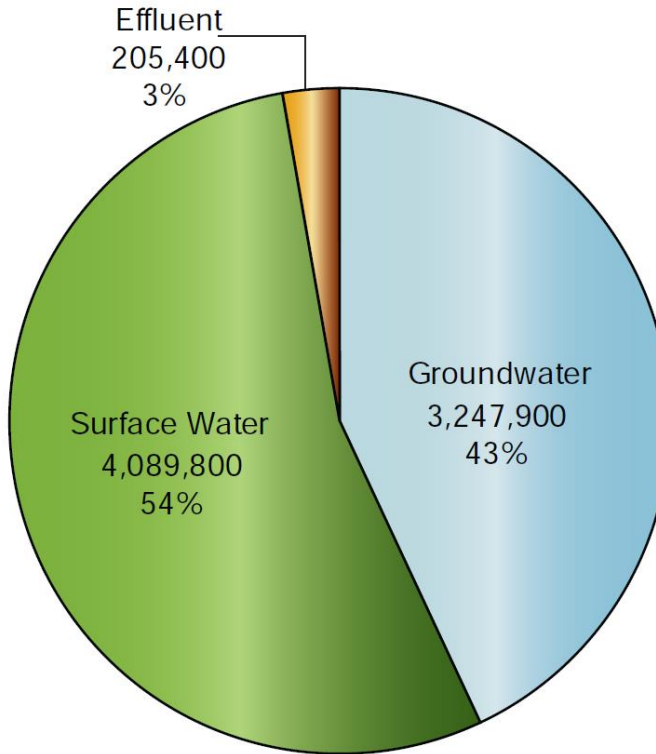


INTRODUCTION TO DCDC WATERSIM

- BRIEF OVERVIEW OF WATER RESOURCES AND DEMAND FOR ARIZONA & MARICOPA COUNTY
 - WHY PLANNING FOR WATER SUSTAINABILITY IS DIFFICULT
 - WHAT IS WATERSIM
- 

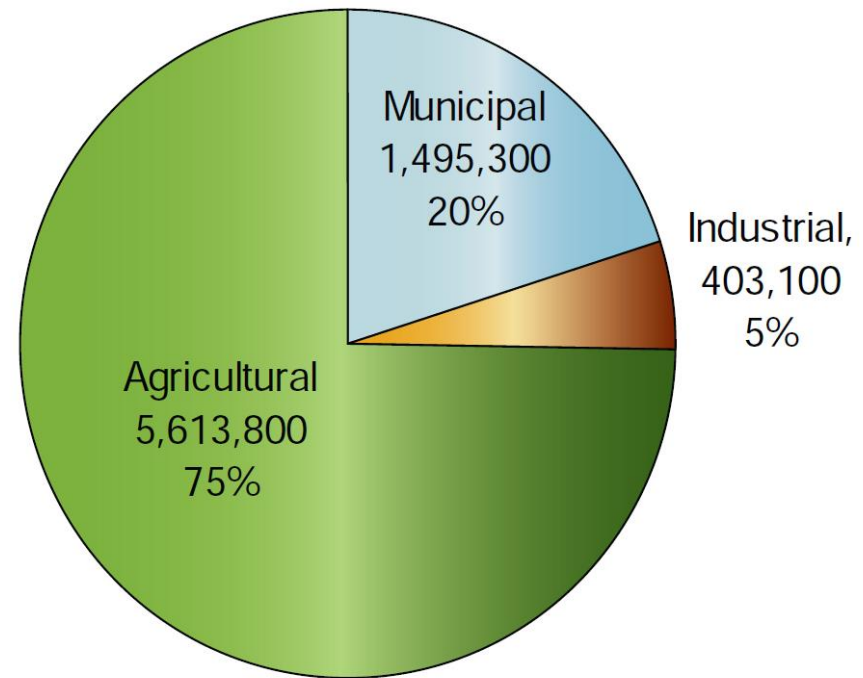
ARIZONA

Figure 1-23 Average Annual Water Supplies Utilized in Arizona, 2001-2005 (in AF and % of total)



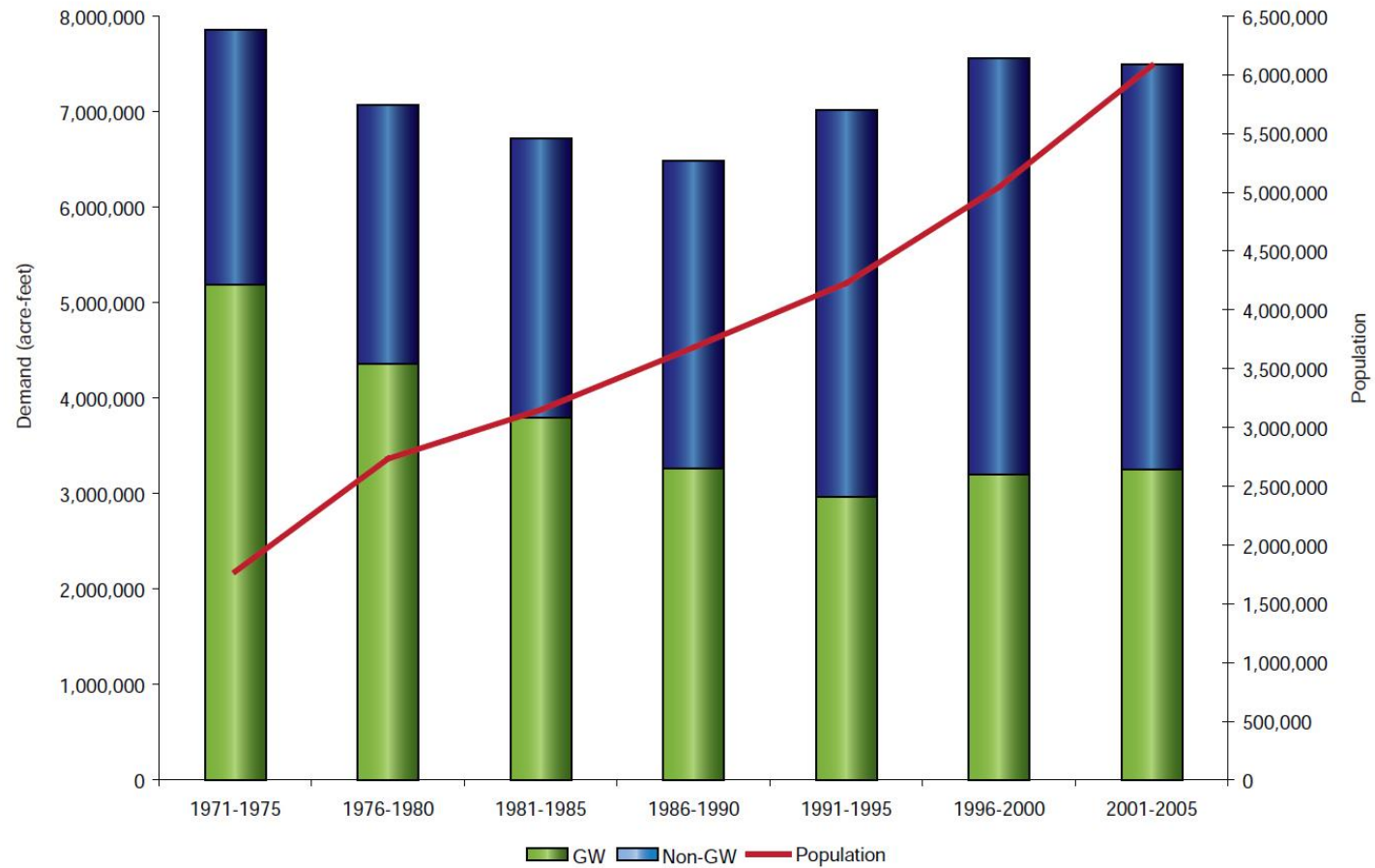
ARIZONA

Figure 1-32 Average Annual Water Demand in Arizona by Sector, 2001-2005 (in AF and percentage of total)



ARIZONA

Figure 1-28 Comparison of Arizona's Average Annual Water Demand to Its Population, 1971-2005



PHOENIX SURFACE WATER SUPPLY COLORADO RIVER BASIN

LOWER BASIN ALLOCATIONS

California - 4.4 maf
Arizona - 2.8 maf
Nevada - 0.3 maf
Mexico - 1.5 maf



PHOENIX SURFACE WATER SUPPLY COLORADO RIVER BASIN

Salt and Verde River Basin

Salt River Project



Phoenix Area Water Features



Colorado River (CAP)

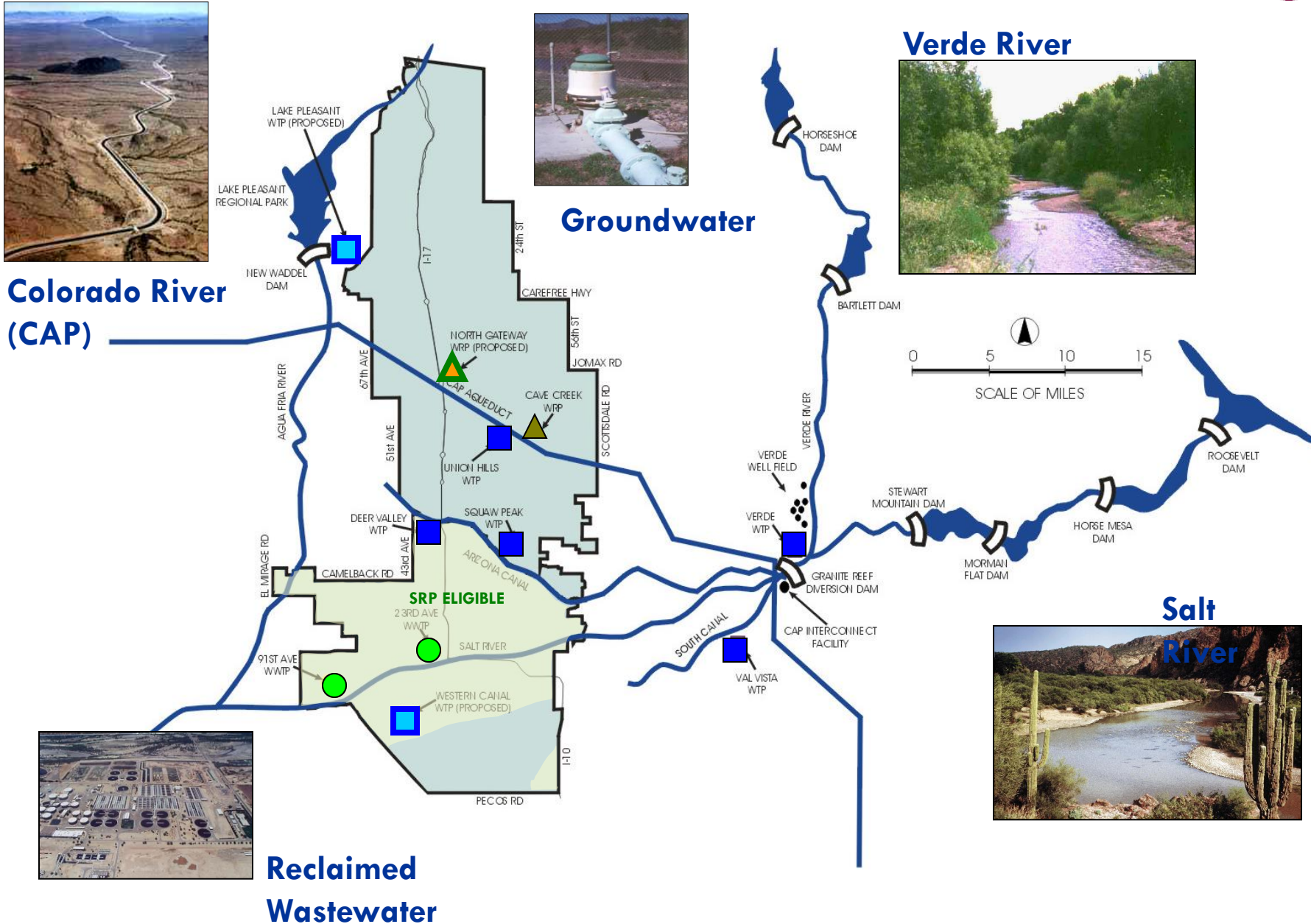


Groundwater

Verde River



Salt River



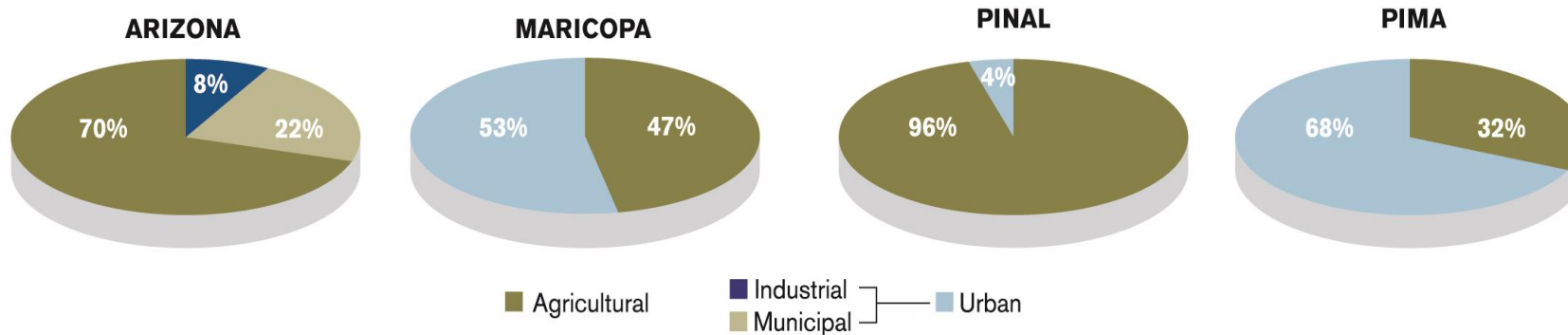
Watering the Sun Corridor

(Gammage, etal 2011)

Managing Choices in Arizona's Sun Corridor



WATER USE PROFILES FOR ARIZONA AND THREE COUNTIES



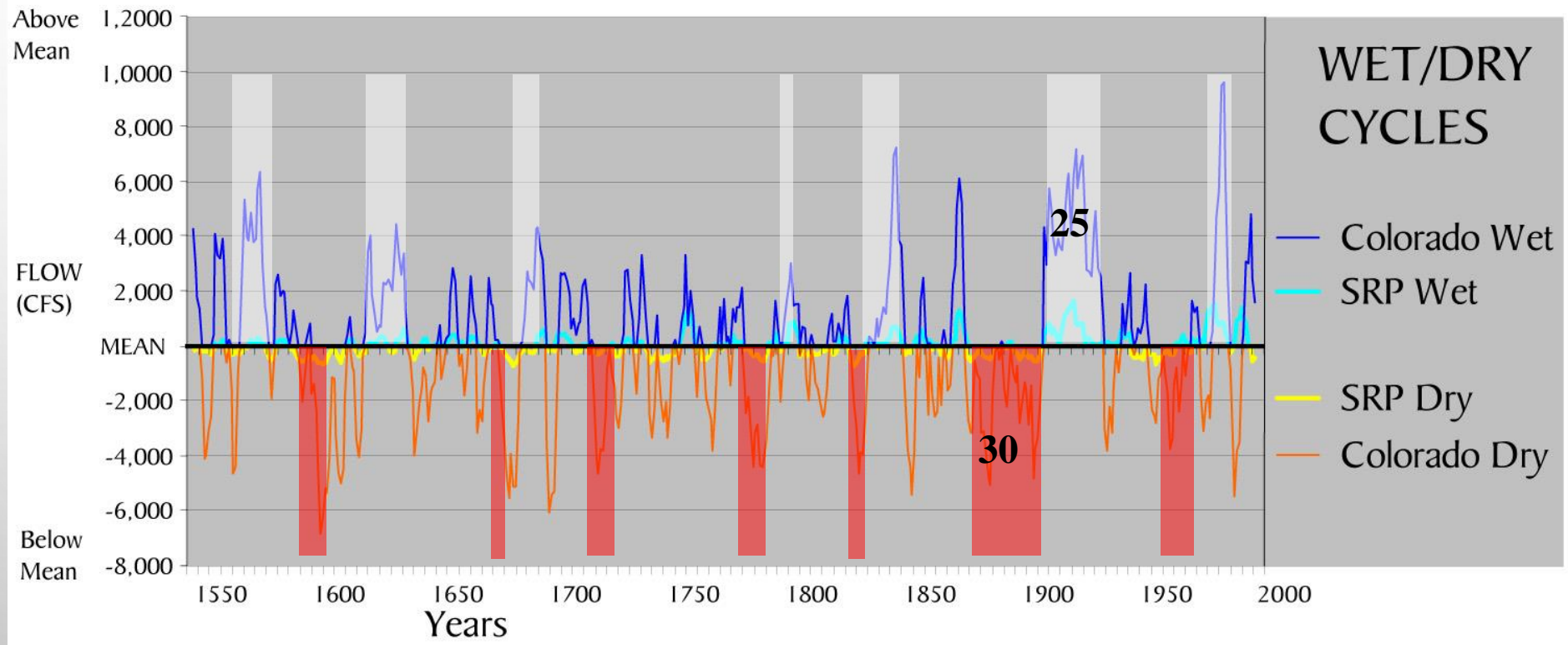
Source: *Arizona Water Atlas*, Vol. 8 (2010). Arizona Department of Water Resources.

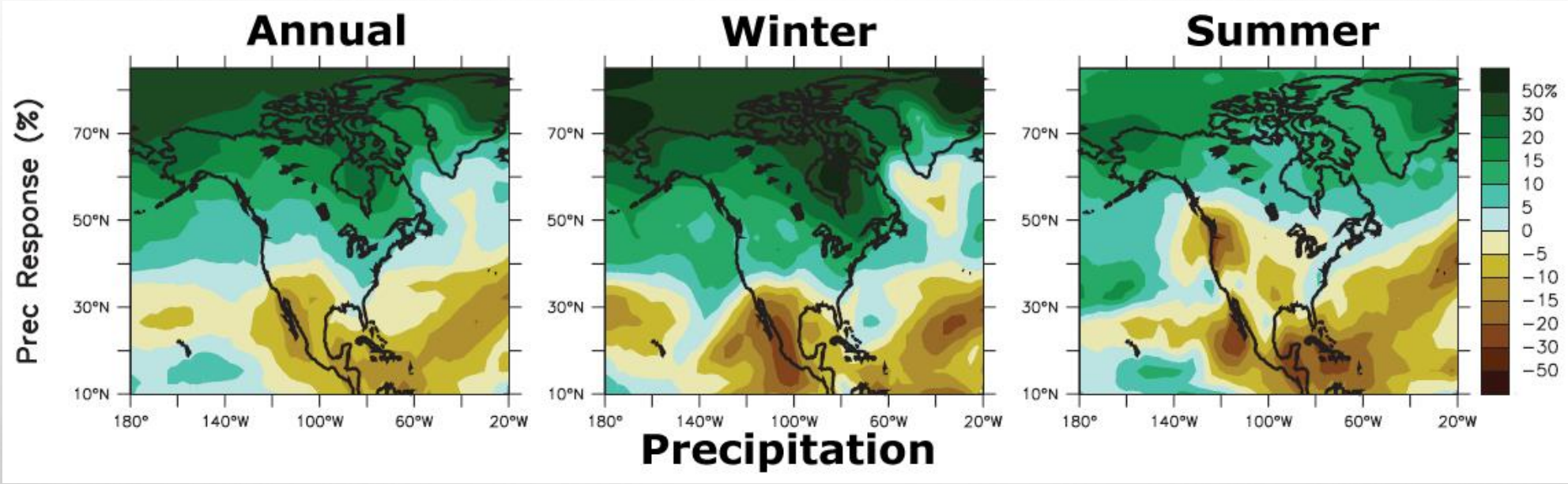
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WHY IS IT SO DIFFICULT TO PLAN FOR SUSTAINABLE WATER?

- UNCERTAINTY ABOUT FUTURE SUPPLY AND FUTURE DEMAND

PALEO AND HISTORIC RIVER FLOWS





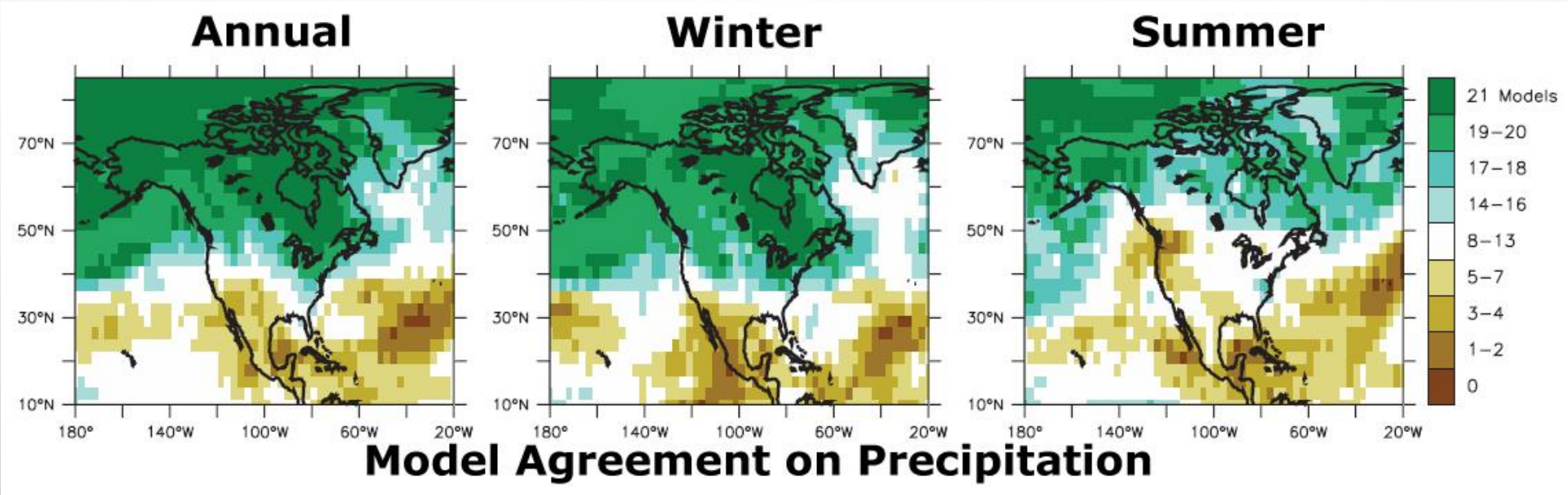
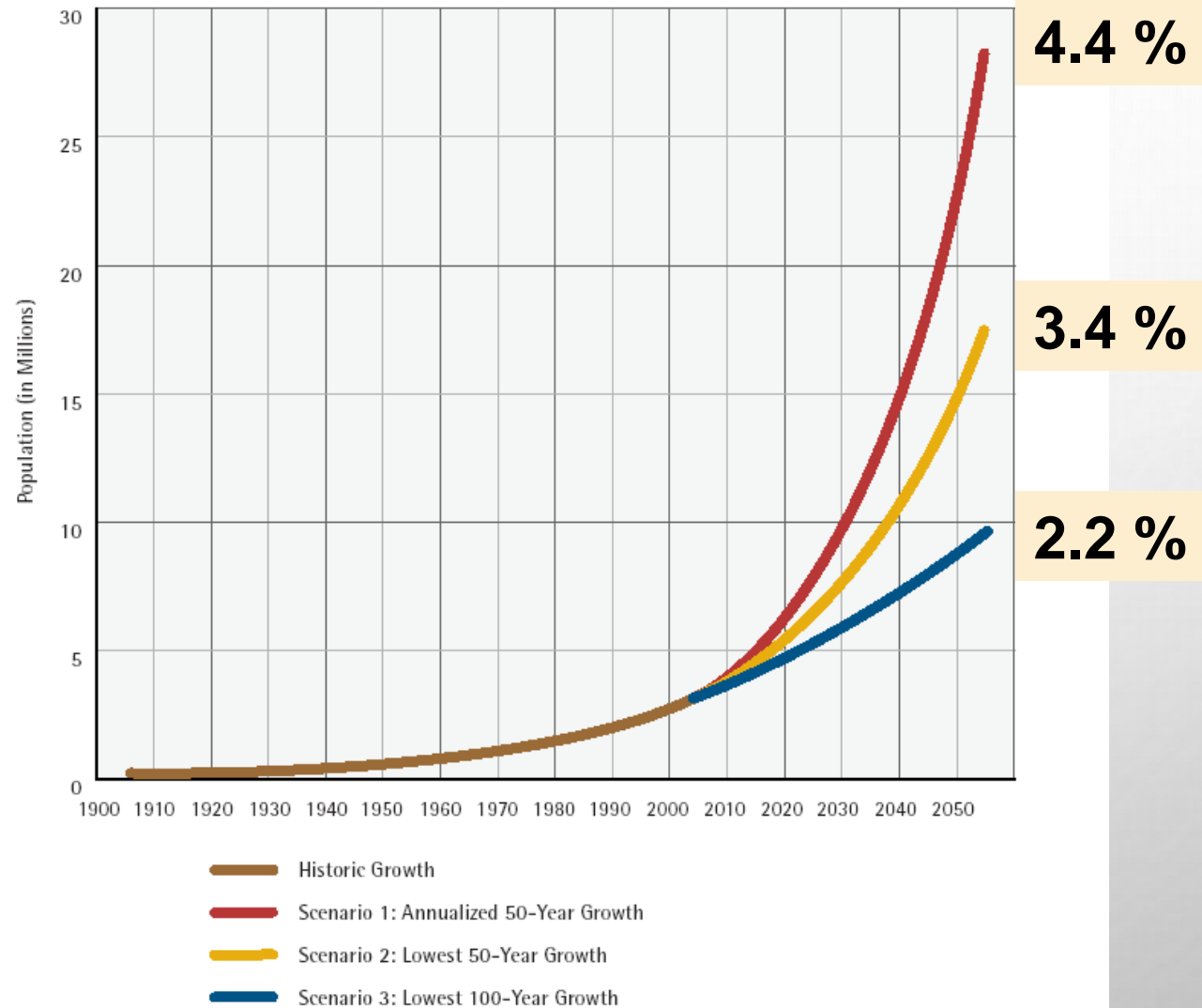


Chart 1: Historical Growth and Scenarios of Future Regional Growth



Source: (2003) Greater Phoenix 2100 Regional Atlas

HISTORICAL WATER DEMAND FORECASTS : SEATTLE



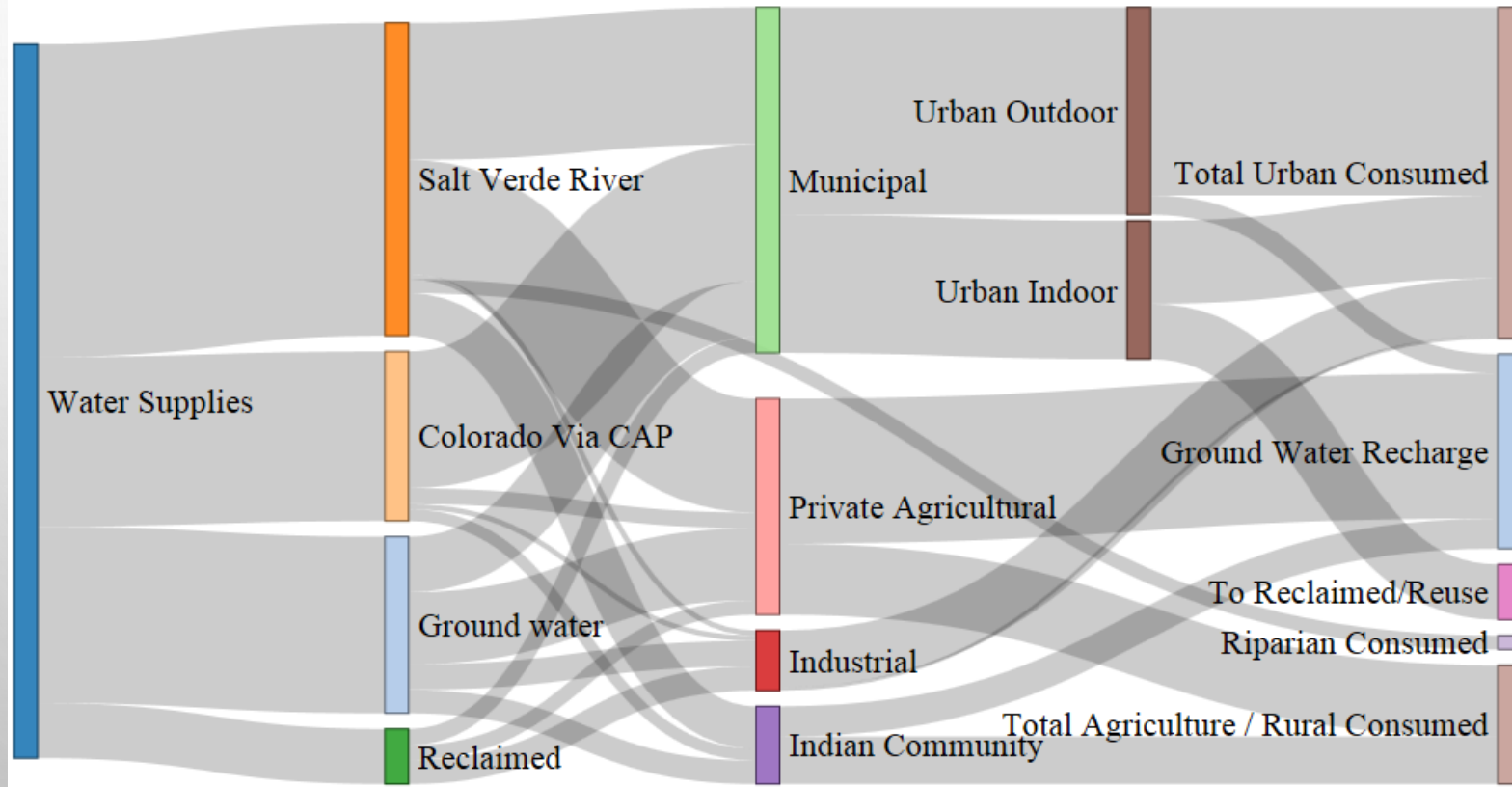
Seattle Public Utilities 4/24/12

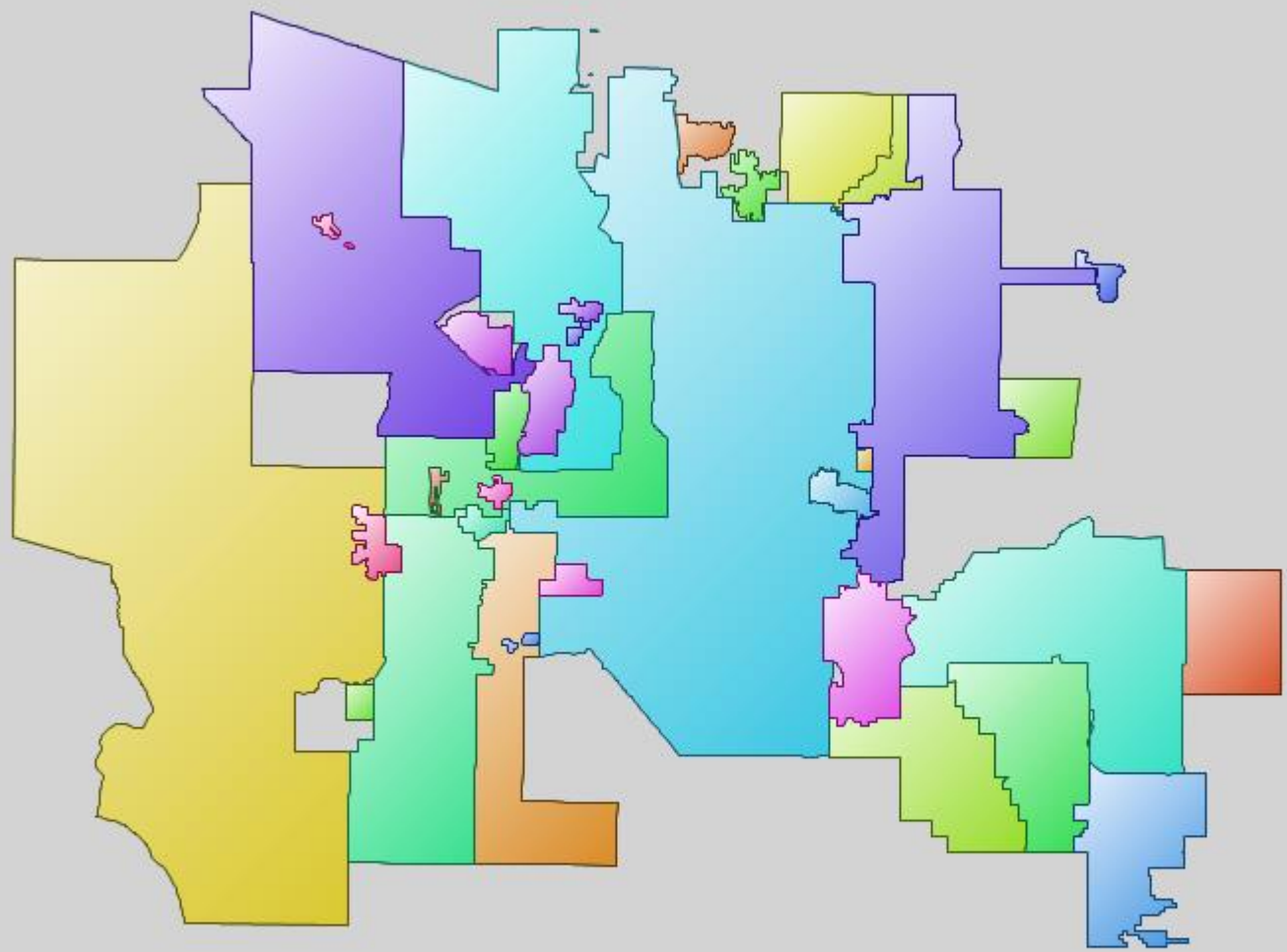
WHAT IS WATERSIM?

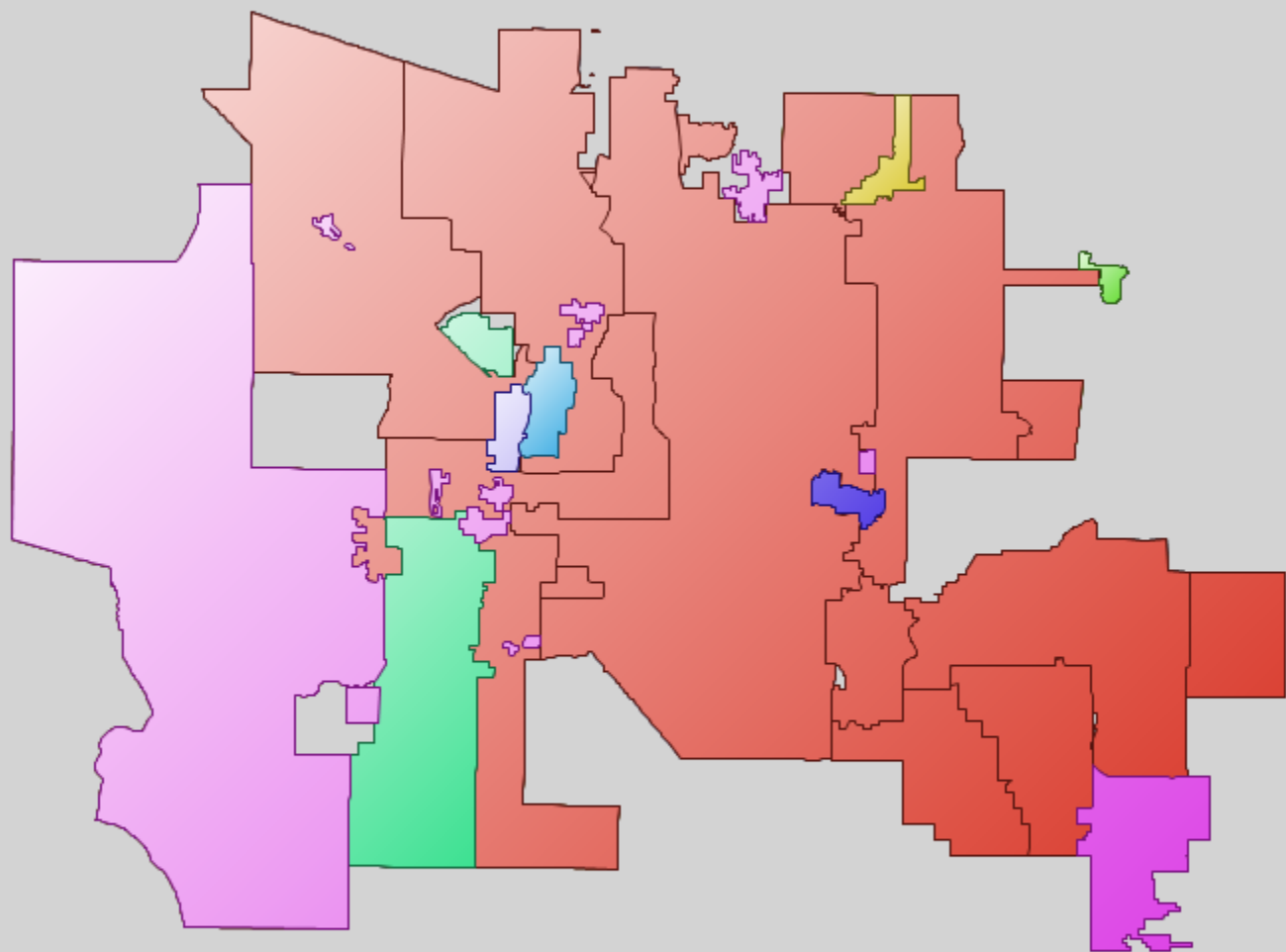
- URBAN WATER SUPPLY AND DEMAND BUDGET MODEL FOR MARICOPA AMA
 - MODELS THE FLOW OF WATER FROM NATURAL (AND NOT SO NATURAL) SUPPLY, TO URBAN AND AGRICULTURE USE, FINALLY TO ITS RETURN TO NATURAL SYSTEMS
- MODELS 33 WATER UTILITIES
- ANNUAL TIME STEP

Phoenix Active Mangement Area Water Supply and Demand Flows

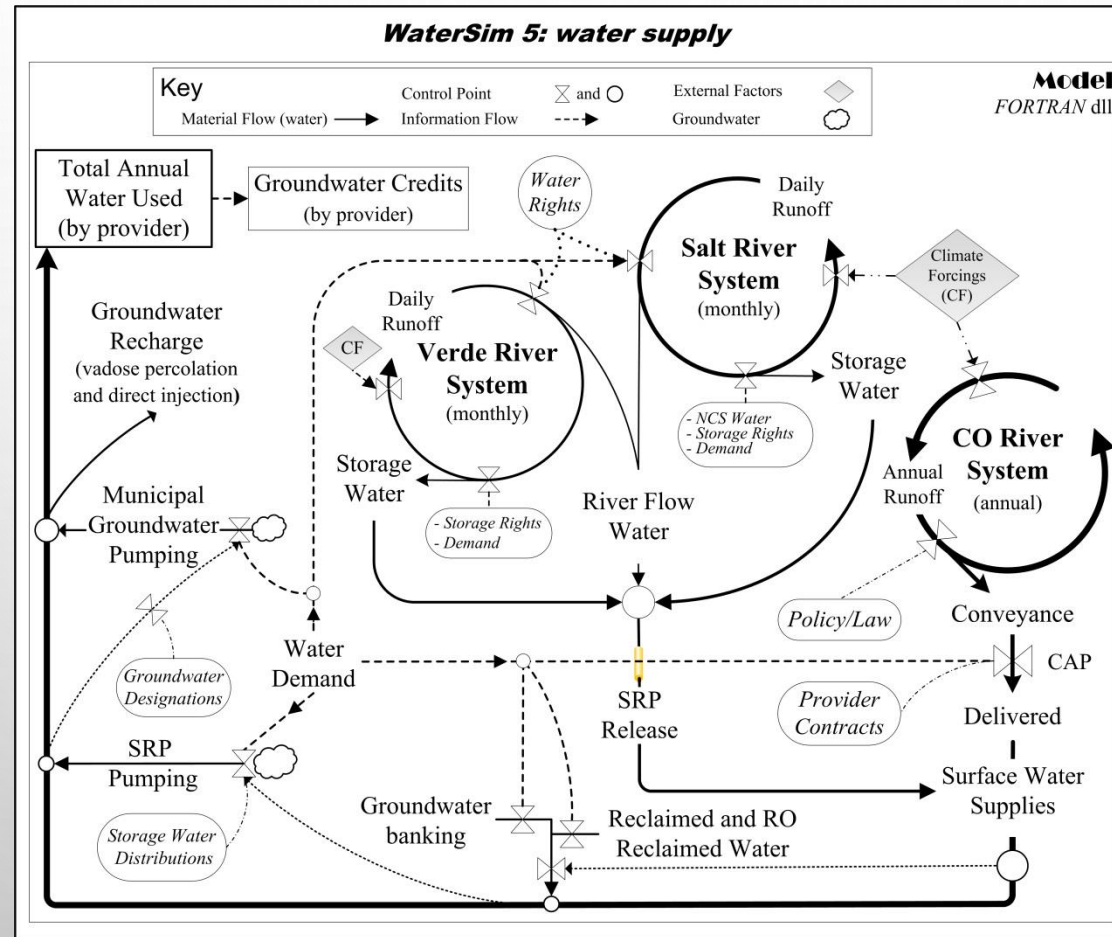
Source: Arizona Department of Water Resources, 4th Management Plan Assessment [Summary Budget](#)
Drag to rearrange nodes.



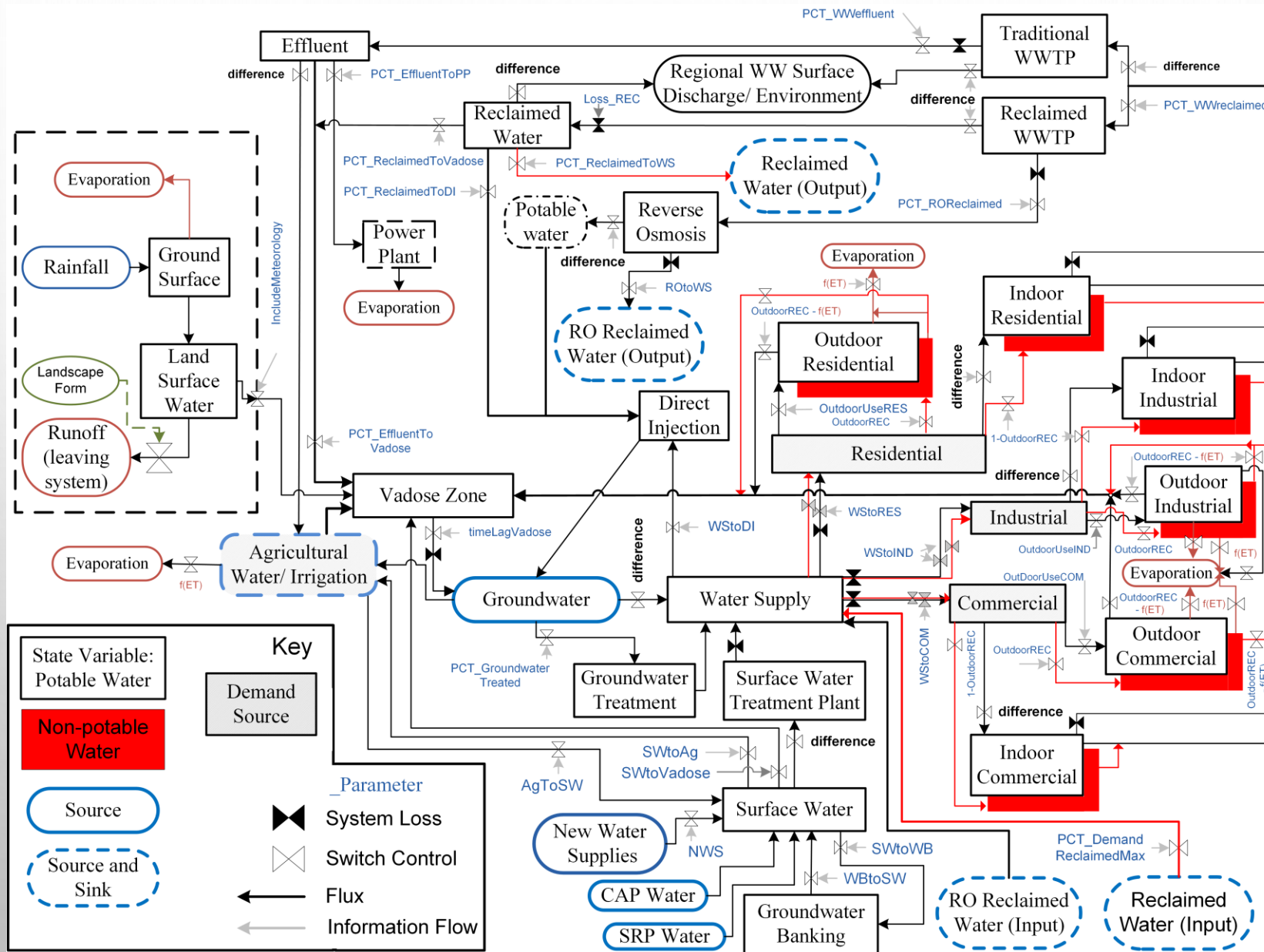




SUPPLY/DEMAND



WATER NETWORK



USING WATERSIM

- GOAL – IDENTIFY POLICIES (STRATEGIES) THAT CAN BE USED TO MANAGE WATER SUPPLY AND DEMAND AS A SUSTAINABLE SYSTEM.
- SUSTAINABLE SYSTEM MEANS ENOUGH WATER TO MEET DESIRED DEMANDS
 - BALANCING SUPPLY AND DEMAND

USER INTERFACE: ONLINE