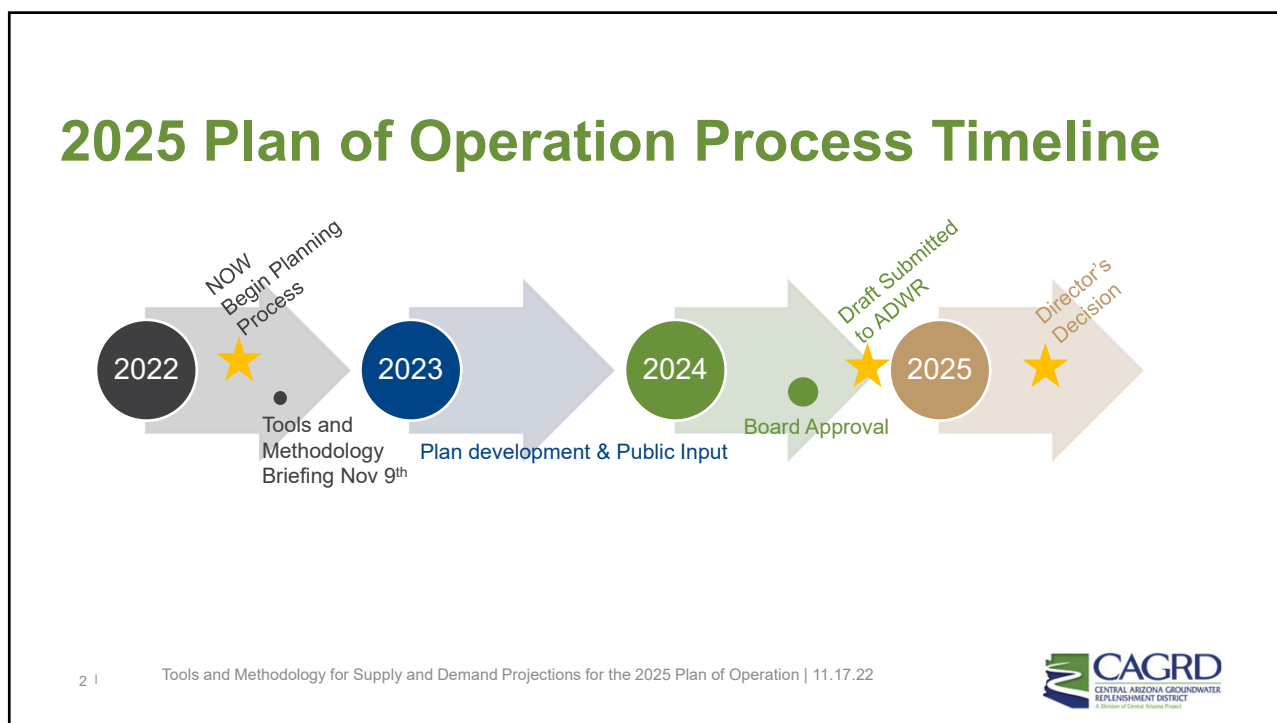




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2

Projecting Water Supply & Demand

Some of the interrelated factors that affect water supply and demand :

- Growth
- Shortage
- Climate Variability
- Socio-Economics
- Policy Changes
- Behavioral Shifts
-

“Driving Forces” = High levels of uncertainty and complexity

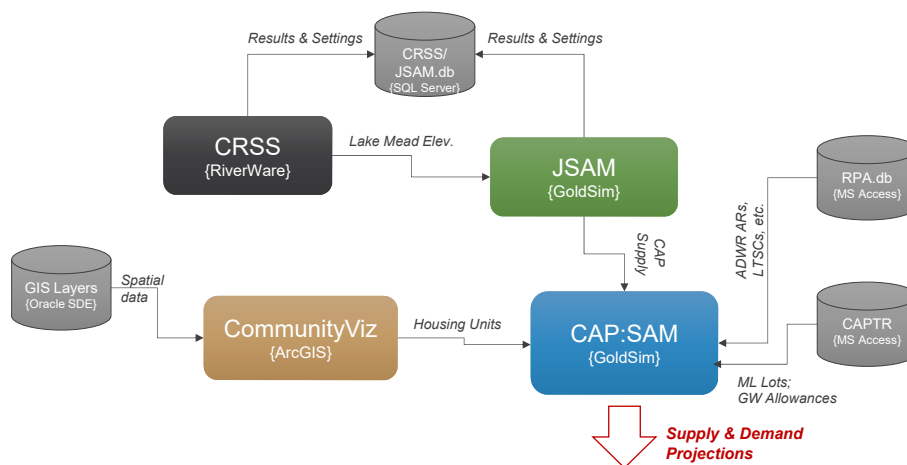
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3

CAP Models and Databases



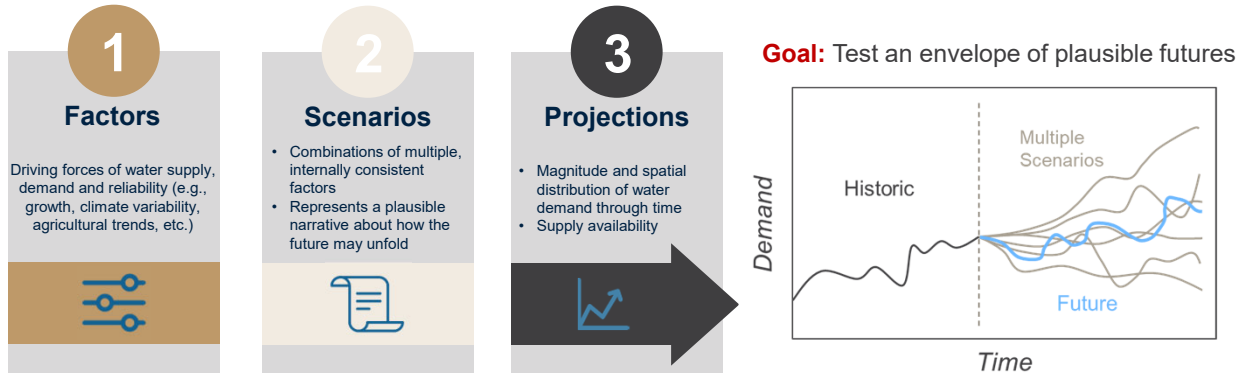
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4

Scenario Planning Steps

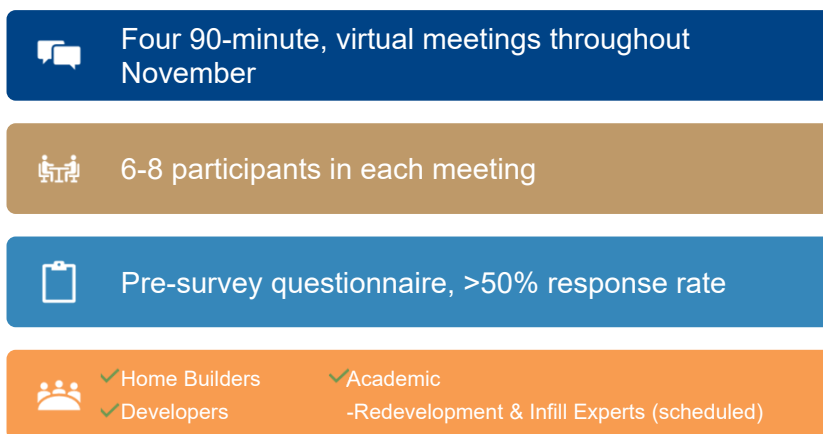


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5

Housing Outlook Focus Groups



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6

A GIS Approach to Modeling Growth

- CommunityViz Scenario 360 is an ArcGIS Extension that adds interactive analysis tools and a decision-making framework to the ArcGIS platform
- CommunityViz GIS tools to analyze and visualize growth patterns across the CAGRD Service Area
- Intuitive workflows for the nuts and bolts of spatial growth pattern modeling
- Utilizing GIS and tabular data from planning agencies, including the regional councils (MAG, CAG, PAG)

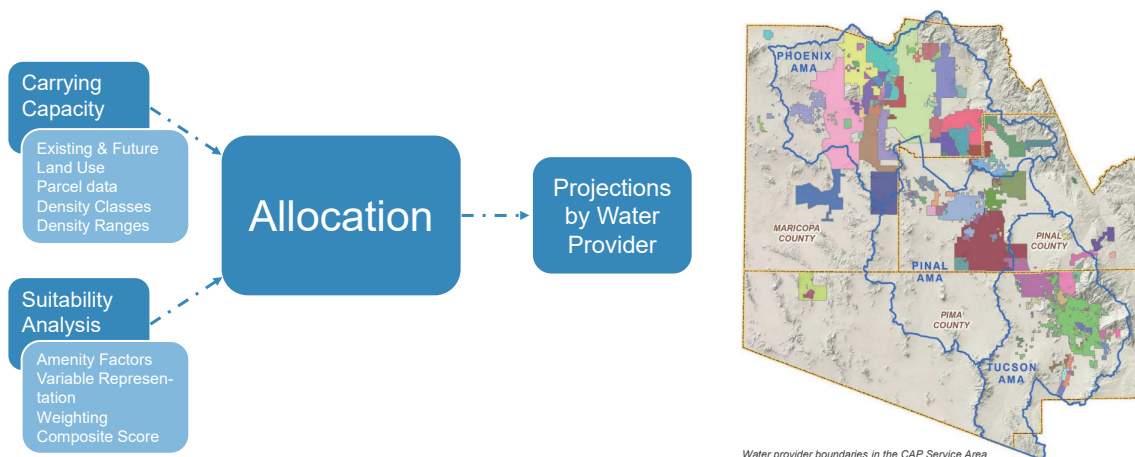


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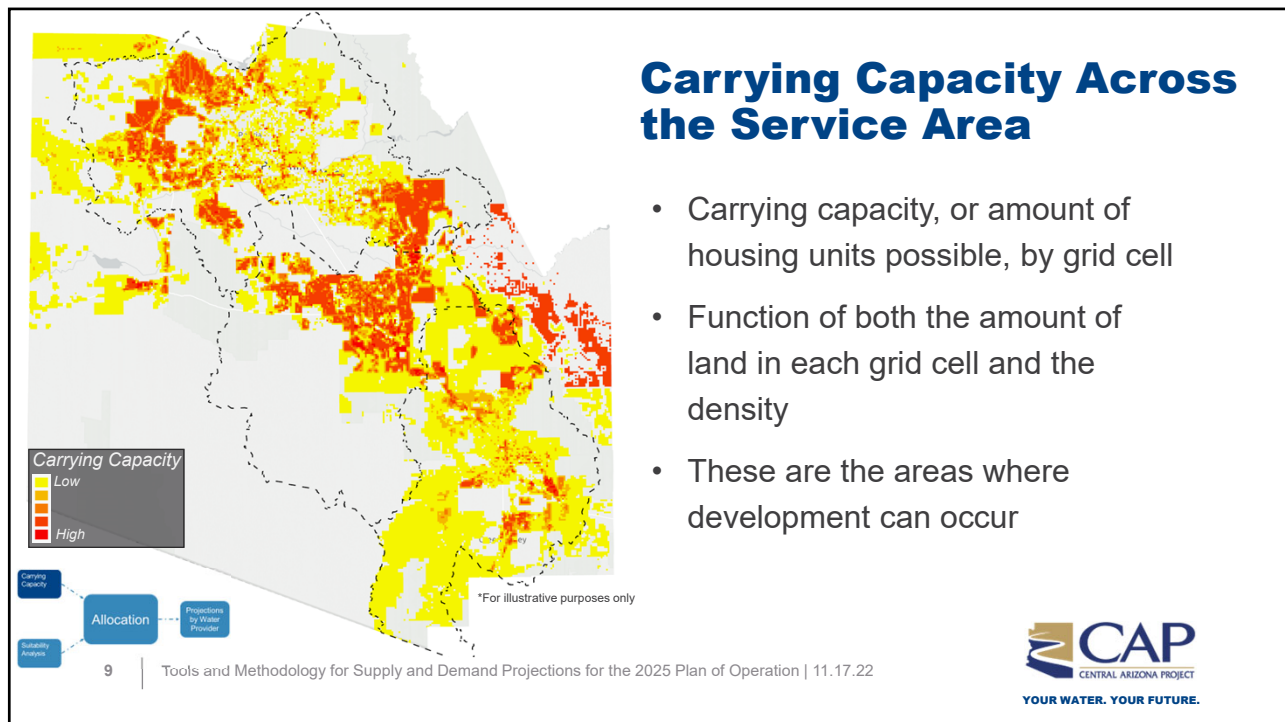
CAP CommunityViz Modeling Steps



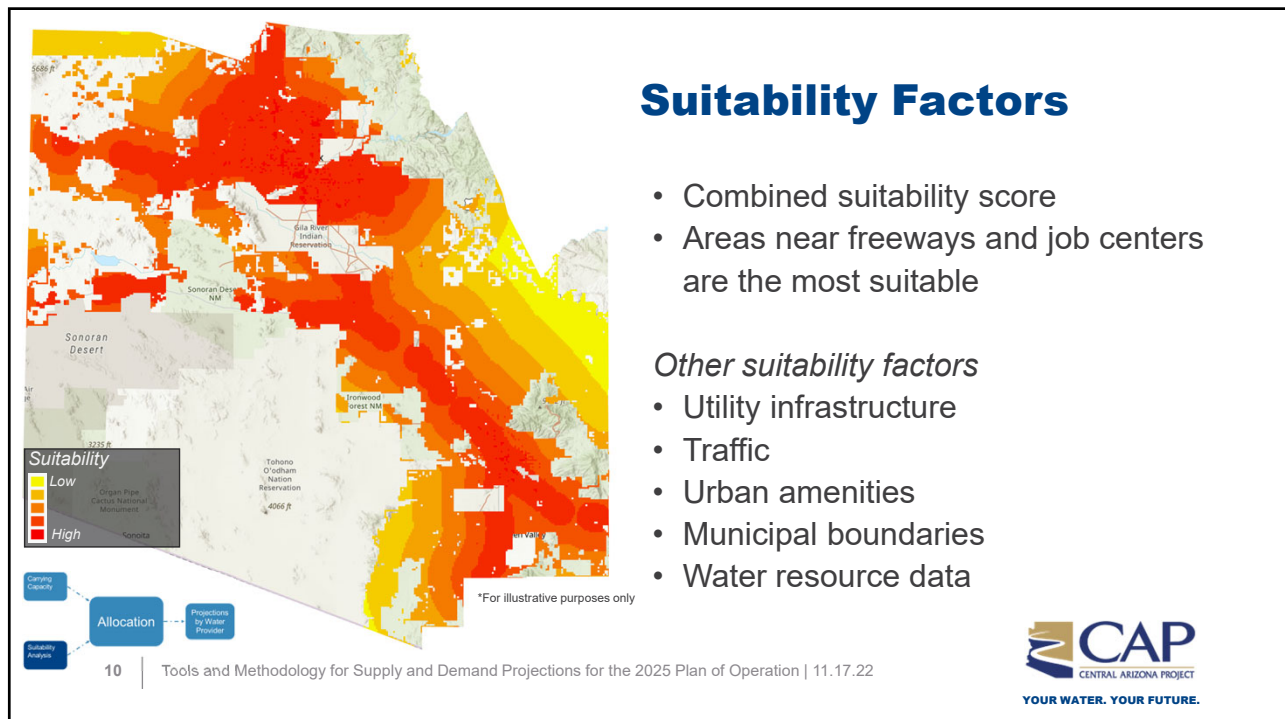
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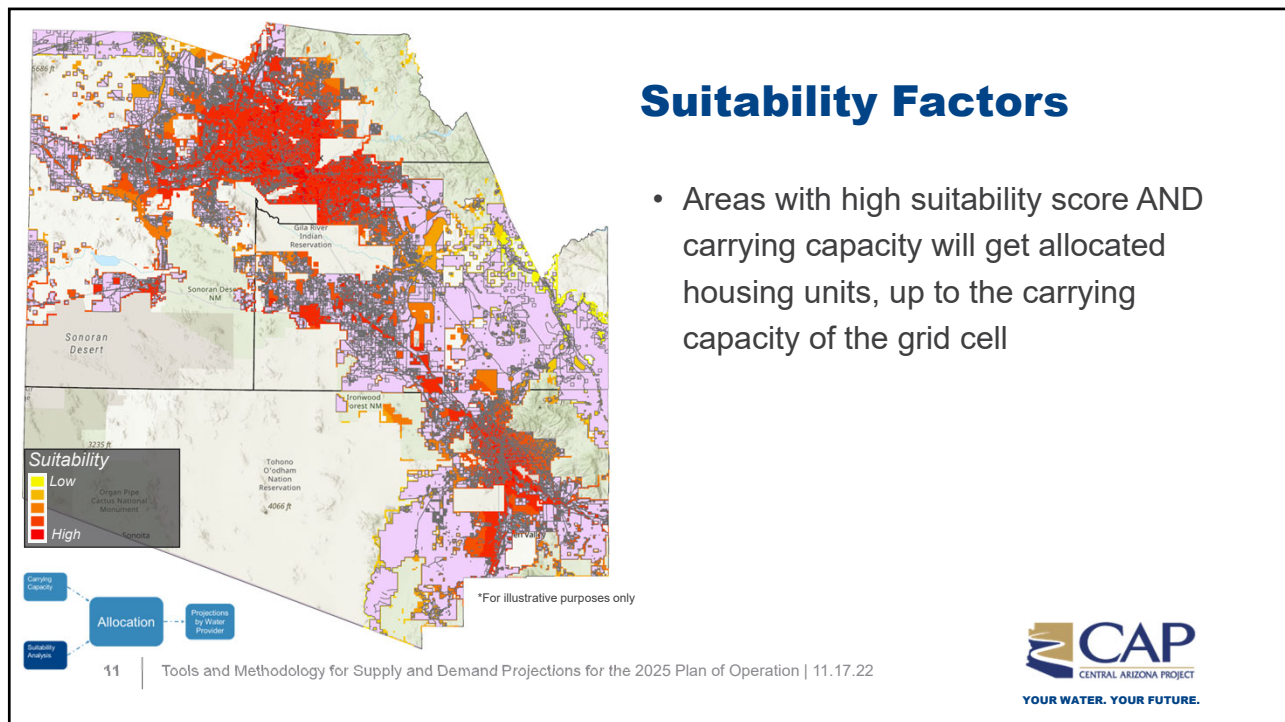
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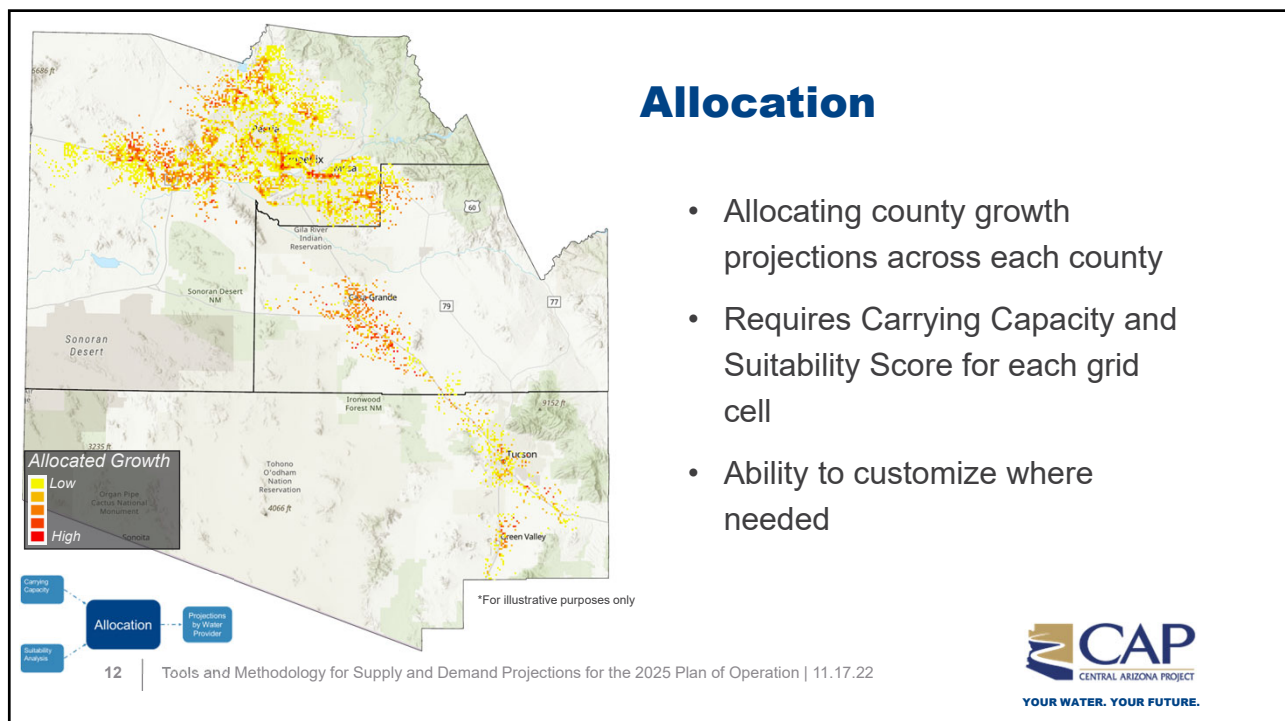
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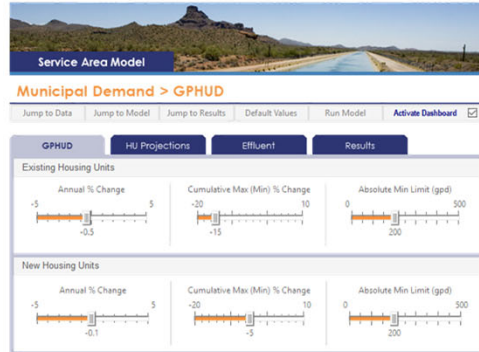
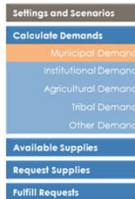
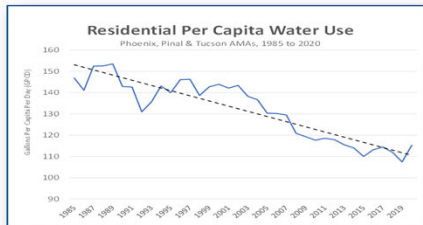
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Municipal Conservation

CAP: SAM allows annual and cumulative percent changes in GPHUD to be set for both new and existing uses

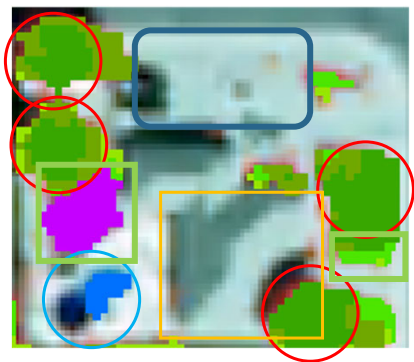
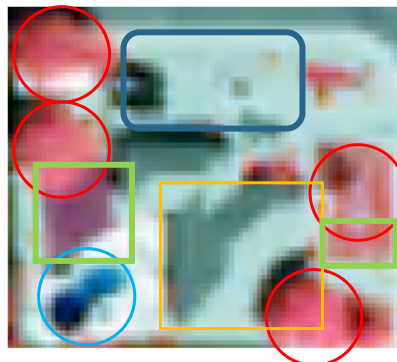


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13

Example Residential Parcel Classification



Tree **House** **Pool** **Grass** **Non-vegetation landscape**

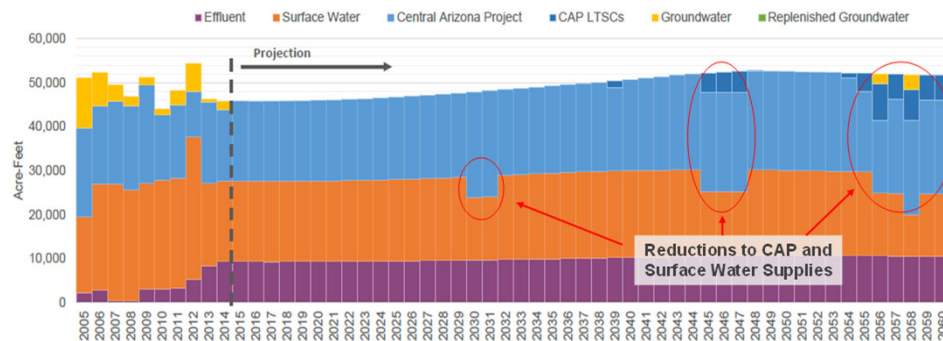
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Supply/Demand Fulfillment

Each entity's projected demand is satisfied with supplies that are available to them in a sequence of preferred use



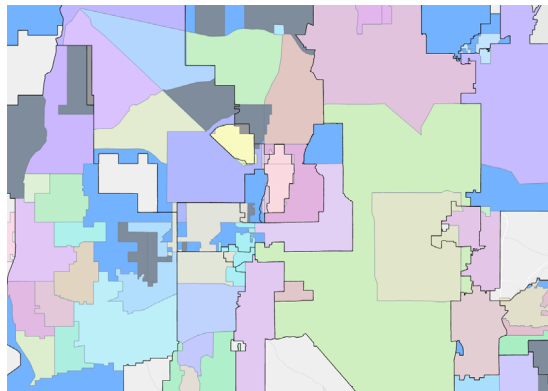
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Effluent Production & Utilization

Sewer collection areas



- Effluent use (e.g., purple pipe, IPR, DPR) can have a large influence on how future demands are met
- CAP has compiled spatial and tabular data on effluent production and use, and incorporated additional functionality into CAP:SAM to better characterize future use
 - Includes a GIS layer of sewer collection areas by treatment plant
- Effluent availability can be estimated by aggregating the CommunityViz housing unit projections by the sewer collection areas, then applying production factors along with effluent ownership and current uses

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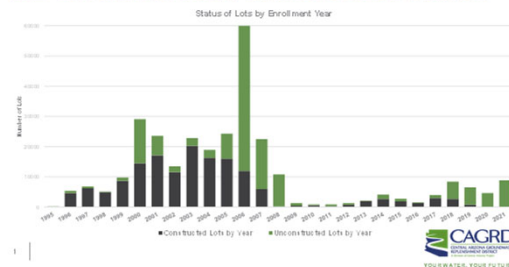


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Enrolled but Unconstructed Lots

- CAGR D has a significant number of Member Land lots that are enrolled but not yet constructed
- At the same time, there are new Member Land enrollments (excluding Pinal AMA), some of which are proceeding quickly to construction

ML Enrollment and Construction Status



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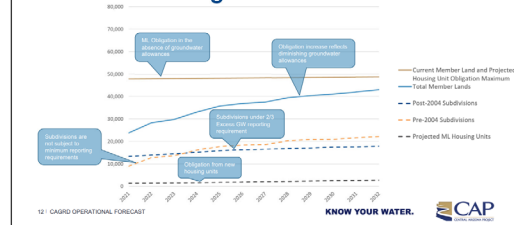


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ML Groundwater Allowance and Provider Reporting

- The volume and timing reported Excess Groundwater is influenced by the availability of groundwater allowance, the nature of the subdivision, when it was enrolled, and any non-groundwater supplies that the water provider delivers
- CAP:SAM tracks the groundwater allowances by ML water provider and Plan Period, and can account for differences in reporting percent and comingled supplies

Phoenix ML Obligation Forecast



Presentation, "CAGR D Operational Forecast," April 21, 2022

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Thank you.

Questions?

The full presentation and video from the Briefing are available on the CAP website:

“Meetings” → “Briefings and Roundtables” → “2022 Briefings”