Why future scenarios?
The Sustainable Future Scenarios (SFS) engagement process creates space to question the limits of what is normally considered possible, desirable, or inevitable in the face of future challenges.

Scenarios are an important tool for assessing potential socio-ecological change across a region, city, or neighborhood.

Through a collaboration of practitioner and academic stakeholders, this research integrates participatory scenario development, modeling, and qualitative scenario assessments.

Comparative analyses among the future scenarios demonstrate trade-offs among regional and microscale temperature, water use, land-use change, and co-developed resilience and sustainability indices.

The SFS approach emphasizes the co-development of positive and long-term alternative future visions. Scenario approaches vary based on diverse planning and decision support needs and objectives. CAP LTER uses 3 distinct scenarios.

CAP Scenarios: Seven Regional Futures

- Adaptive Flood 2060: Desert Wetland
  - Multi-use floodplains, parks, & transportation system
- Adaptive Drought 2060: True Cost of Water
  - Long-term water security with banking & conservation
- Adaptive Heat 2060: Cool Off or Lose It
  - Heat equity addressed with green & grey infrastructure
- Transformative 2060: Healthy Harvest Hub
  - Re-eroded urban farm, food & energy system
- Transformative 2060: Emerald City
  - Balancing targets for flood, drought, & heat
- Transformative 2060: Almost Zero Waste
  - Reduce water, material, & energy waste
- Strategic 2060: Aspirational future scenario based on existing governance strategies

CAP Scenarios: Cross-scale Comparisons

| Resilience characteristics | Sustainability characteristics | Summary scores |
|----------------------------|------------------------------|----------------|
| Cope with flood | Cope with drought | Cope with heat | Equity City | Eco City | Smart City | RESIL | SUS | Overall |
| Adaptive scenarios | | | | | | | |
| Flood Desert wetland | 3.0 | 2.0 | 1.5 | 0.0 | 2.0 | 0.0 | 6.5 | 2.0 | 6.5 |
| Drought True Cost of Water | 0.0 | 3.0 | 1.3 | -0.8 | 2.0 | 1.8 | 1.8 | 1.9 | 3.7 |
| Heat Cool it or Lose it | 1.5 | 3.0 | 3.0 | 0.8 | 2.0 | 1.0 | 6.5 | 3.8 | 10.3 |
| Transformative scenarios | | | | | | | |
| Healthy Harvest Hub | 1.5 | 2.0 | 2.0 | 0.5 | 1.5 | 3.0 | 5.5 | 5.0 | 10.5 |
| Emerald City | 2.5 | 1.8 | 2.5 | 1.8 | 2.8 | 1.8 | 6.8 | 5.5 | 12.3 |
| Almost Zero Waste | 2.0 | 2.5 | 2.0 | 1.0 | 2.0 | 1.0 | 6.5 | 4.0 | 10.5 |

CAP Scenarios: Five Neighborhood Futures

- Workshop participants constructed five positive visions of the future of South Phoenix along the themes of:
  1. Just green enough (avoiding green gentrification)
  2. Equity district (achieving social and environmental justice)
  3. Mountain to river (ecohydrological connectivity)
  4. Some like it hot (dealing with extreme heat)
  5. Connected and mobile (improving all forms of transit)

CAP Scenarios: Cross-scale Comparisons

See Berbés-Blázquez poster #22

Visit www.sustainablefutures.asu.edu for more information