A collaborative approach to desert plant community research

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Central Arizona-Phoenix Long-Term Ecological Research
CAP LTER

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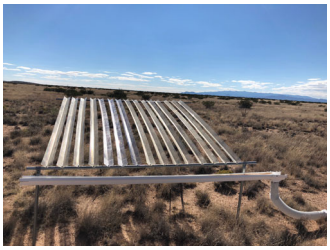
Experimental Premise

- Changes in climate are making droughts more frequent and more extreme, creating a need for cross-site research in drought response and ecological sensitivity
- High sensitivity to drought in drylands make deserts an ideal study system for drought research
- Leveraging the resources of established research stations allows for the execution of coordinated experiments which can be used to tackle large ecological problems

Methods and Design

- 2-3 sites at each location
- 7 treatment and 7 control plots per site
- 2.5 X 2.5m plots
- Rain-out structures positioned 1-2m above ground
- ~66% of annual precipitation
- The simple, standardized design allows for low cost and less time investment, making cross-site comparison easier
- Cross-site networking utilizes existing research infrastructure for site locations, weather data, and routine monitoring



Assorted Applications

- Infrastructure can be used to study drought effects on:
  - Plant community production and stability
  - Post-disturbance recovery
  - Forage availability for mammal communities
  - Soil stability
  - Microbial crust communities
  - Plant phenology
  - Soil carbon cycling

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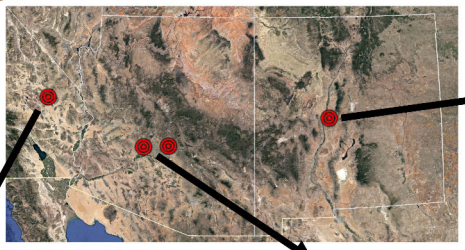
Study Sites



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