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 vulnerability to drought in dryland shrub deserts as 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 2.5 m plots
- Rain-out structures positioned 1-3m above ground
- 40% of annual precipitation
- The simple, standardized design allows for low cost and fast time investment, making cross-site comparison easier
- Cross-site networking uses 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 nutrient communities
  - Plant physiology
  - Soil carbon cycling

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