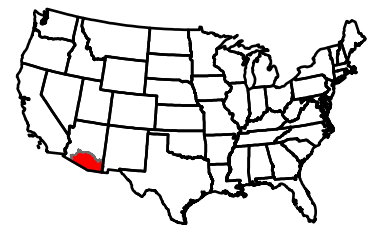
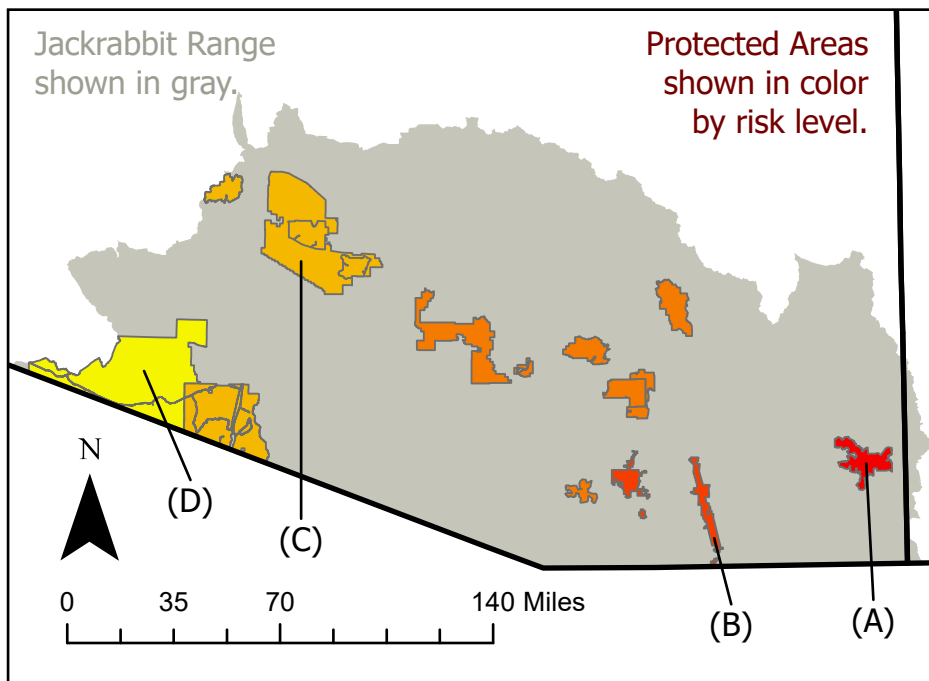
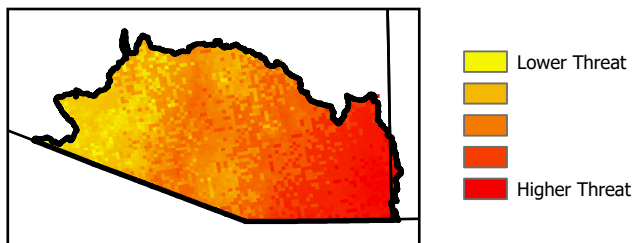


# Climate Risk to Protected Areas for the Antelope Jackrabbit



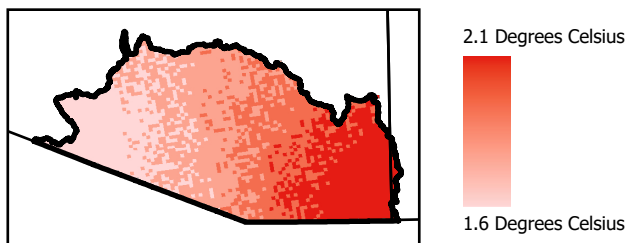
## Climate Index for Protected Areas



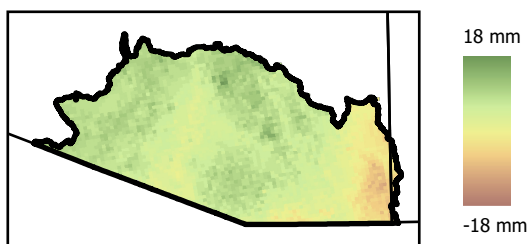
Antelope Jackrabbit Range: Potential Risks	Average (Mean)		
	Risk Index (0-2)	Change in Maximum Temperature (Deg C)	Change in Annual Precipitation (mm)
(A) Chiricahua Wilderness	0.98	2.04	-7.22
(B) San Pedro Riparian NCA	0.86	1.96	3.45
Overall Jackrabbit Range	0.69	1.85	5.42
(C) N Maricopa Mountains WA	0.49	1.74	9.83
(D) Cabeza Prieta WA	0.43	1.68	8.81

The range of the Antelope Jackrabbit (*Lepus alleni*) is only within a limited region in Arizona south and southeast of Phoenix, with a total area of around 75,000 square kilometers. Within this region, there are 47 recognized U.S. Protected Areas designated for biodiversity (GAP levels 1 and 2 only) with a combined area of just over 10,000 total square kilometers. A subset of these areas were chosen for this study if they had an area of at least 100 square kilometers, meaning it contained at least 1% of the total protected biodiversity areas. With these qualifications, the largest 16 protected areas were selected for analysis, accounting for 91% of the biodiversity protected land area.

## Difference in Maximum Temperature



## Difference in Annual Precipitation



Once the areas were selected, climate prediction data for precipitation change and maximum temperature change were used to find potential future climate stressors to the Antelope Jackrabbit's habitat. The values are predicted for 2050 given by the CCSM4 global climate model, under the rcp60 scenario. Less precipitation and higher maximum temperatures were associated with increased climate stressors, making their index value higher. See the chart for the average values calculated for the two highest and two lowest risk areas as identified with this climate threat index.

Created 10/08/25 by John David Goode using ArcGIS Pro. Updated 12/04/25.

Coordinate Projection for US map: NAD 1983 Equal-Area Albers Conic  
Coordinate Projection for study region maps: NAD 1983 UTM 12N

Annual Precipitation and Maximum Annual Temperature: WorldClim

2024 Census TIGER State Boundaries: US Census Bureau

Antelope Jackrabbit Range: U.S. Geological Survey (USGS) - Gap Analysis Project (GAP), 2018, Antelope Jackrabbit (*Lepus alleni*) mANJAX\_CONUS\_2001v1 Range Map: U.S. Geological Survey data release, <https://doi.org/10.5066/F7X929CH>.

Protected Areas: U.S. Geological Survey (USGS) Gap Analysis Project (GAP), 2024, Protected Areas Database of the United States (PAD-US) 4.1: U.S. Geological Survey data release, <https://doi.org/10.5066/P96WBCHS>.

