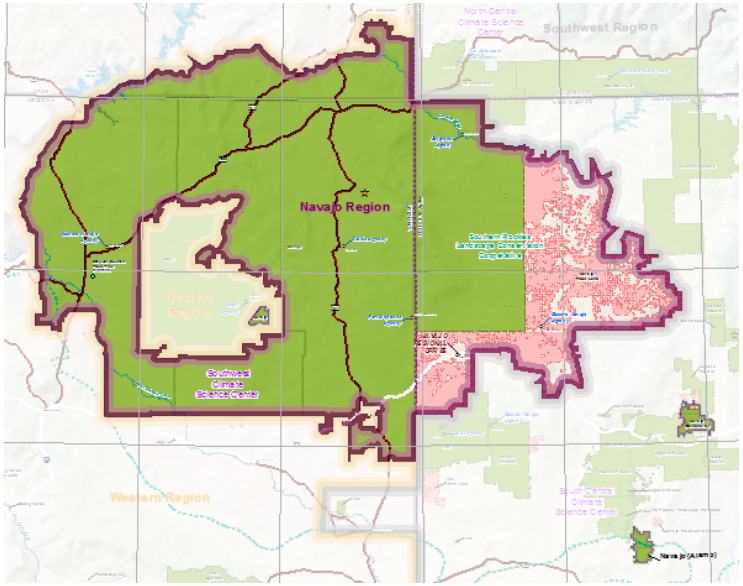
US Department Of The Interior
Indian Affairs

# Tribal Climate Resilience Program — Navajo Region

## NAVAJO REGION

In the Navajo Region, representing one of the largest regional Tribal populations composed of a single Tribe, a drier, hotter climate impacts a growing population facing growing water and food scarcity through the loss of traditional ranching and land management practices.




### CLIMATE IMPACTS

- Drought
- Food Scarcity
- Cultural Continuity
- Limited Water Resources

**NAVAJO TRIBAL AWARDS**: $676,693

## FUNDED STRATEGIES

The Navajo Nation has developed both a nation-wide vulnerability assessment and a comprehensive adaptation plan

The Priority Species Vulnerability Assessment considered golden eagle, mule deer, desert bighorn sheep, mountain lion and the American black bear, as well as Pinyon Pine, Yucca, Mesa Verde Cactus, Navajo Sage and Salt Cedar to better develop protection and restoration strategies. - http://bit.ly/2mtBWGi

Considerations for Climate Change and Variability Adaptation on the Navajo Nation detailed water resources and ecosystem change, impacts to farming, ranching, biodiversity, forests, human health, energy operations, and infrastructure - http://bit.ly/2lerXTj

Navajo Nation has employed youth interns to assist communities in a growing awareness of the impacts and strategies available to address sand dune mobilization, water scarcity, limited ranching options, and economic alternatives.

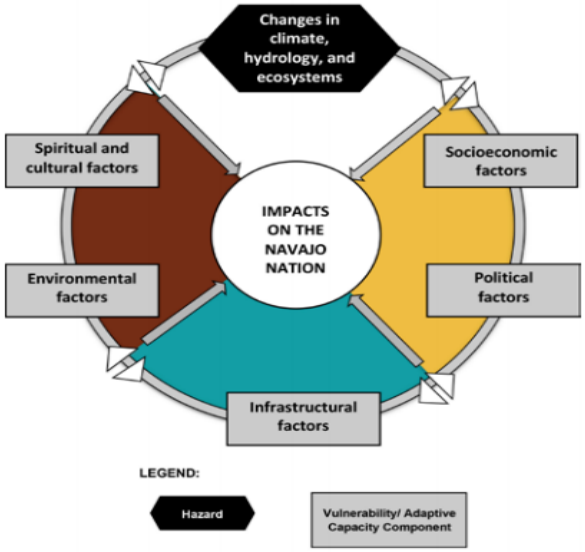
The Navajo Nation is active in the Southern Rockies LCC, which worked with the Tribe to develop a Conservation Planning Atlas component for Connectivity of Habitats on Navajo Nation Lands - http://bit.ly/2lKzVqP

A recent BIA TCRP award will help assess the vulnerability of old-growth forests using tree ring analysis to help analyze ancient use patterns and drought cycles. Another effort will train Tribal staff to prioritize ways to protect key species.

## EXAMPLE PROJECTS

**Navajo Project PreventsSand Dune Mobilization**
The Navajo Nation works with the U.S. Geological Survey and the Northern Arizona University Environmental Education Outreach Program (EEOP) to provide education and to test methods to that may help stabilize sand dunes. One strategy involves making fabric tubes of corn-based material and filling them with sand. People lay out these "sand sausages" in a grid pattern, and plant small seed cakes containing native seeds in a heavy clay base. The seed cakes prevent seeds from blowing away and the sand sausages enhance rain capture - http://bit.ly/2qHySs8

**Comprehensive Adaptation Plan Process**

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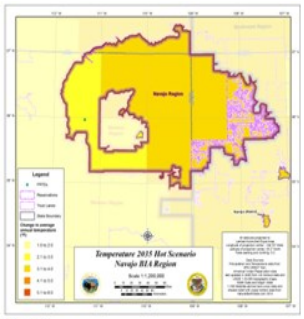
## CLIMATE SCENARIOS

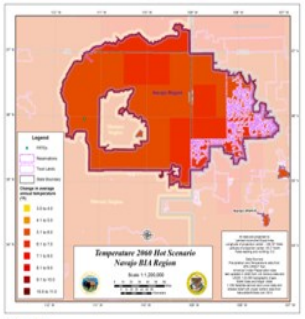
### 2035 and 2060 CMIP5 Climate Projections

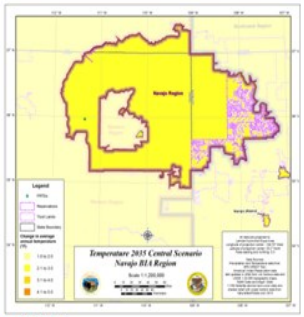
From EPA CREAT Projection Map - http://arcg.is/2cEzv2p

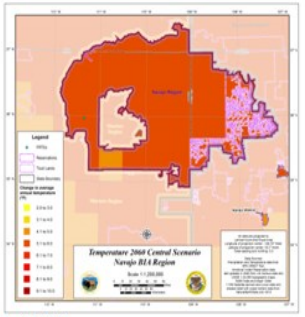
Success at emissions controls over time, as well as development and population trends, will determine the degree of climate change we can anticipate. Managers should test the robustness of decision over a range of potential futures to reduce overall risks and costs.

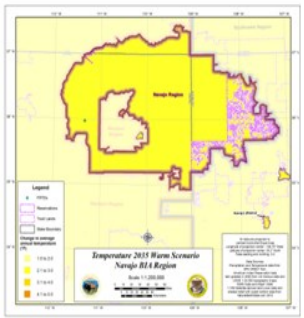
**Temperature Scenarios**

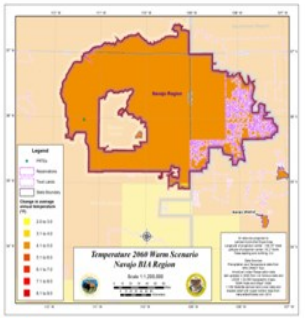

Hot 2035


Hot 2060

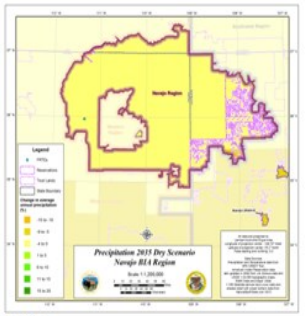

Central 2035

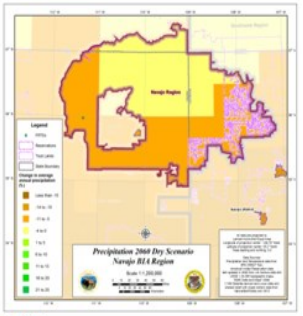

Central 2060

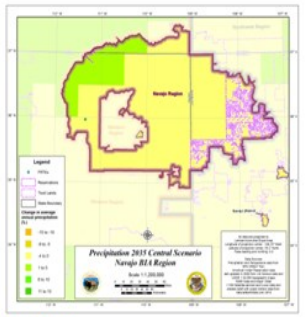

Warm 2035

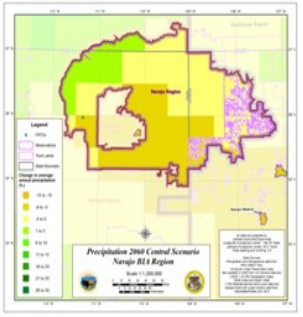

Warm 2060

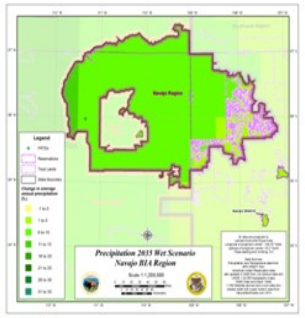
**Precipitation Scenarios**

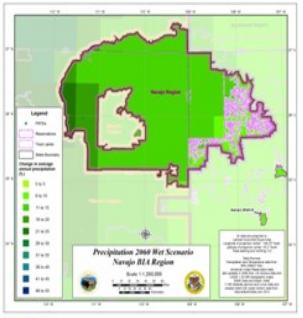

Dry 2035


Dry 2060


Central 2035

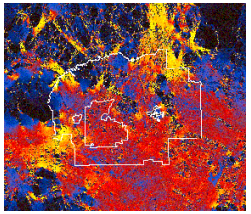

Central 2060


Wet 2035


Wet 2060

## DATA ANALYSIS EXAMPLE

**Assessment of Connectivity and Enhancement of Adaptive Management Capacity on Navajo Nation Lands** http://bit.ly/2lKzVqP



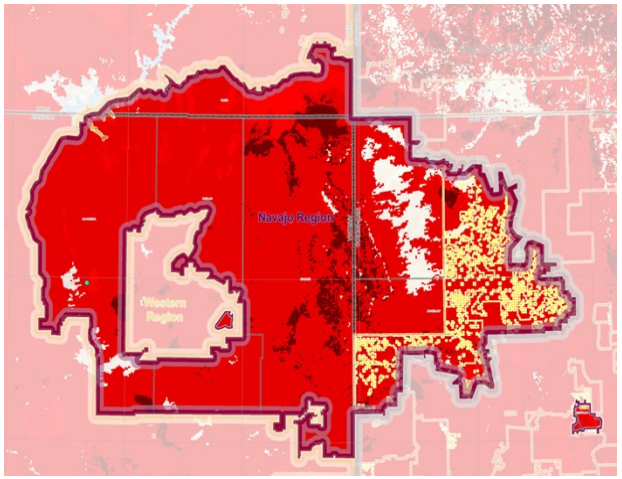
Wildlife distributions under alternative environmental-change scenarios will inform adaptive planning and management actions.

### Fire Historic Data

http://srfs.wr.usgs.gov/Fresc_ScienceData/

The USGS has compiled a fire historical data throughout the western US from 1870-2007 to compare to new fire regimes to better determine unusual trends to address.

Visit the Fires Science Exchange Network - http://www.firescience.gov to obtain information from local experts and scientists working in your area, attend training, share data, and plan and test management strategies together with others facing similar concerns. NASA North American Forest

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