A few highlights from Southwest Climate Assessment Chapter 17:

Unique Challenges Facing Southwestern Tribes: Impacts, Adaptation, and Mitigation

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Summary points from SW Assessment Chp 17

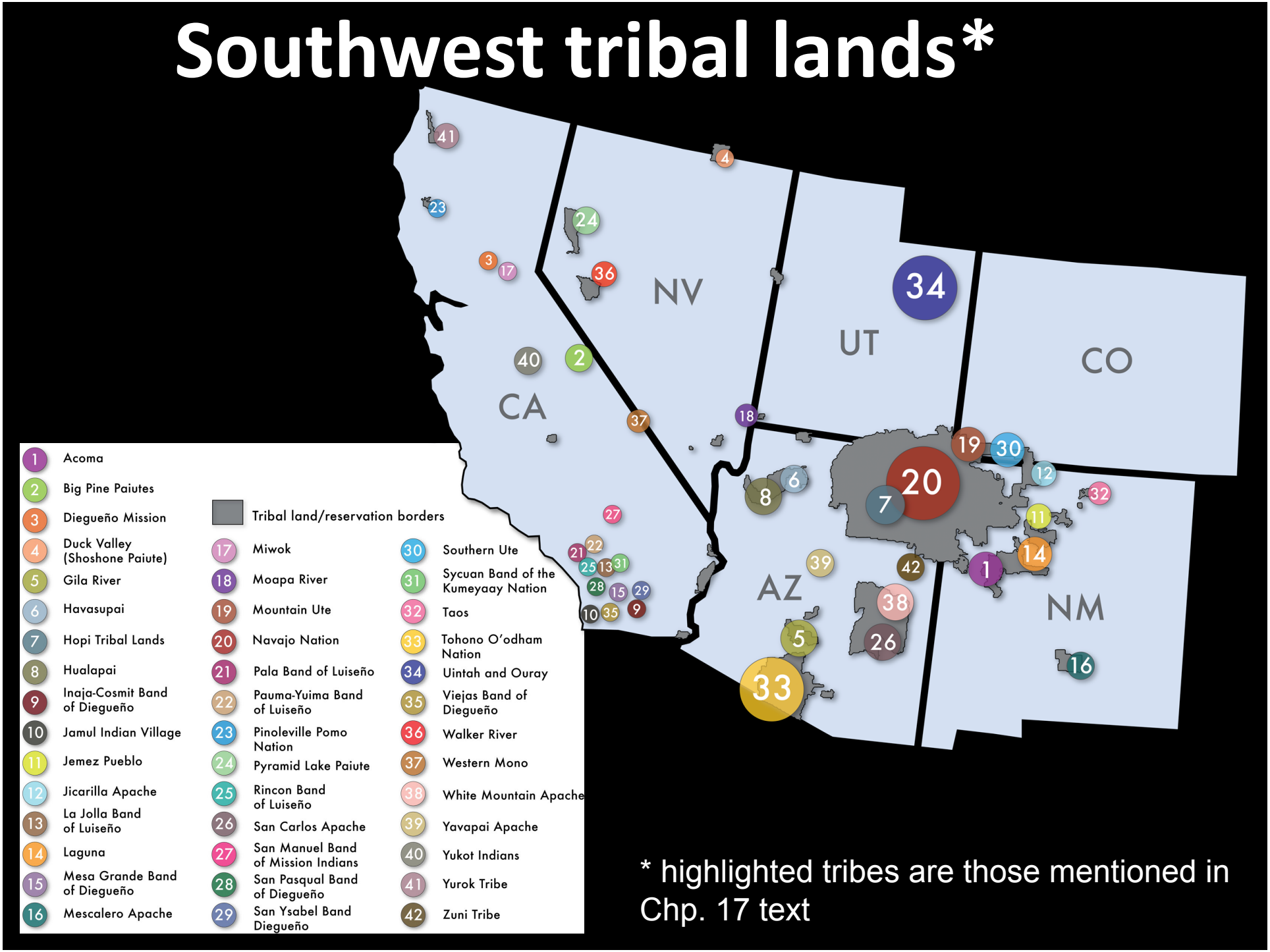
- Southwestern tribes vulnerable to climate
  - closely linked to endangered cultural practices, history, water rights, and socio-economic and political marginalization
- Little data available to quantify changes or to establish baseline conditions for many tribal communities in SW
  - more data needed for understanding impacts on tribal lands
- Available data indicate that some tribes may already be experiencing climate change impacts
- Tribes are taking action
  - instituting climate-change mitigation initiatives
    - utility-scale, alternative-energy projects, and energy-conservation projects
  - evaluating existing capacity to engage in effective adaptation planning

tribal population and land statistics

State	#of tribes†	% tribal population‡	% tribal Land
AZ	21	4.6%	36.0%
UT	8	1.2%	9.5%
NM	23	9.4%	5.7%
NV	19	1.2%	1.8%
CO	2	1.1%	1.4%
CA	109	1.0%	0.4%
Total	**182**	**1.7%**	**10.8%**

†2010 Federal Register
‡2010 Census

Southwest tribal lands*



* highlighted tribes are those mentioned in Chp. 17 text

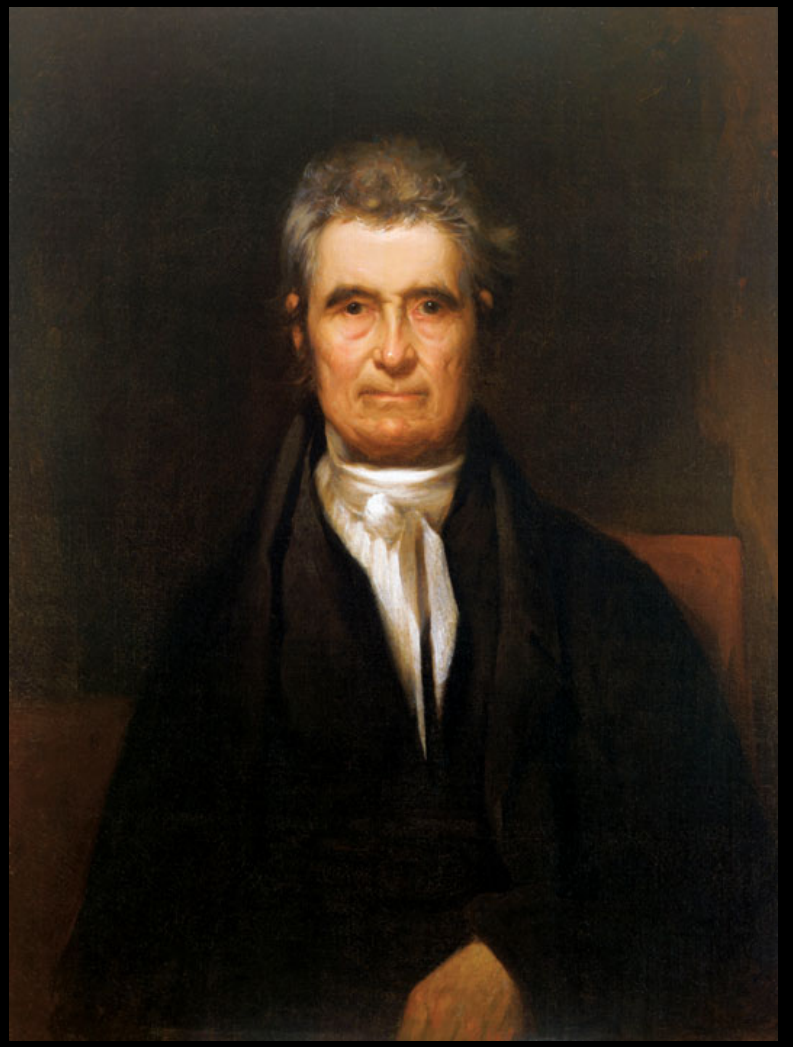
unique relationship to place

- Have a culture, tradition, and self-identity based on the land and sacred places
- Water/environment is sacred and have many water-based/ environment based religious practices
- Livelihoods and cultural resources based on environment

slide courtesy of Dr. Karletta Chief, University of Arizona

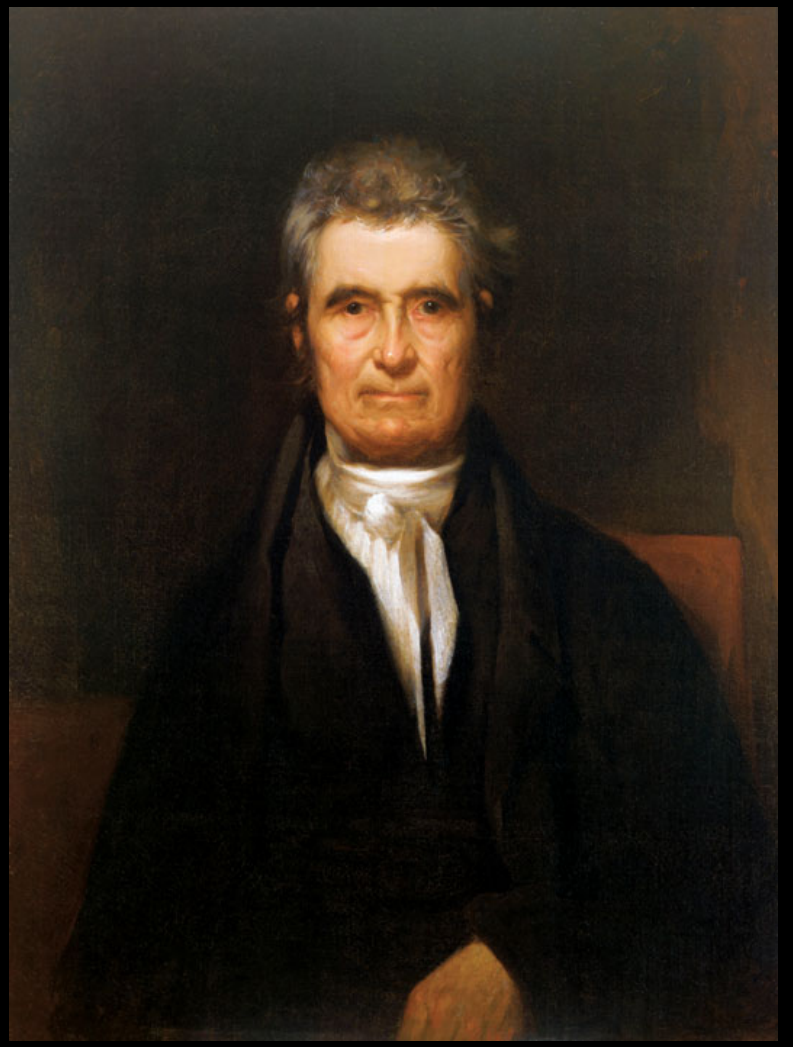
legal foundations of tribal climate adaptation: the Marshall trilogy

1. Johnson v. McIntosh (1823)
   a. Doctrine of Discovery
   b. Aboriginal title, Indians enjoyed a right of "occupancy" only
2. Cherokee Nation v. Georgia (1831)
   a. “domestic dependent nations”
   b. guardian-ward relationship (trust doctrine)
3. Worcester v. Georgia (1832)
   a. the Cherokee are a “people distinct from others” where “the laws of Georgia can have no force”
   b. "John Marshall has made his decision; now let him enforce it!"



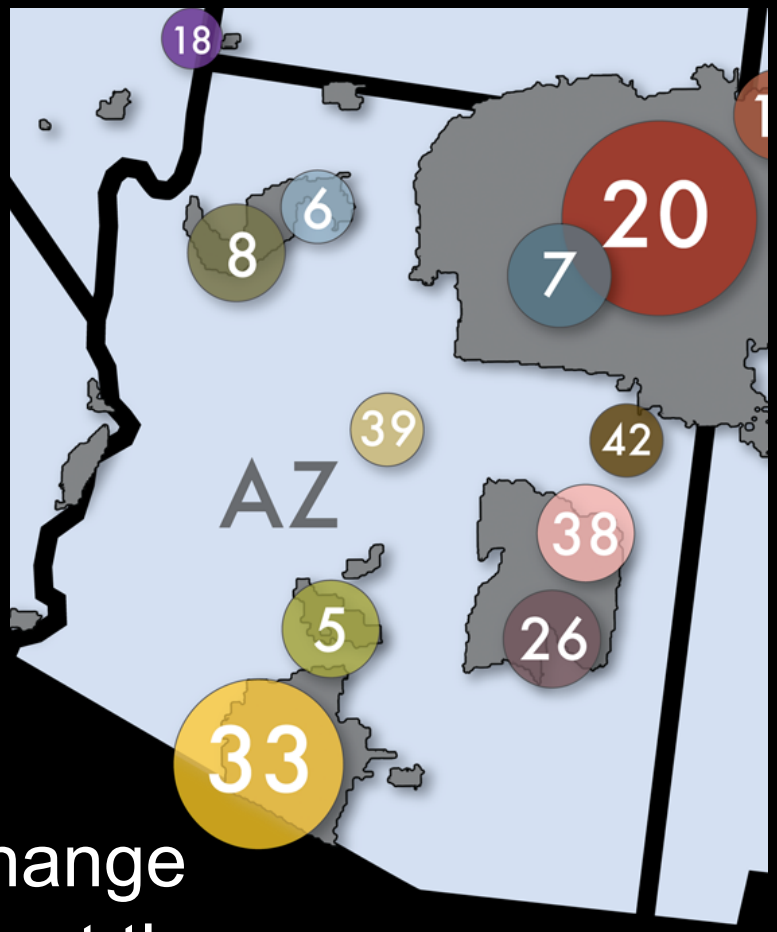
legal foundations of tribal climate adaptation: the Marshall trilogy

1. congressional plenary power
2. inherent tribal sovereignty (whatever has not been taken remains)
3. the trust doctrine
4. canons of construction that define the role of the courts
   a. ambiguous treaty language must be resolved in favor of Indians
   b. treaties must be interpreted as the Indians themselves would have understood them
   c. treaties must be liberally construed in favor of Indians



why the history lesson?

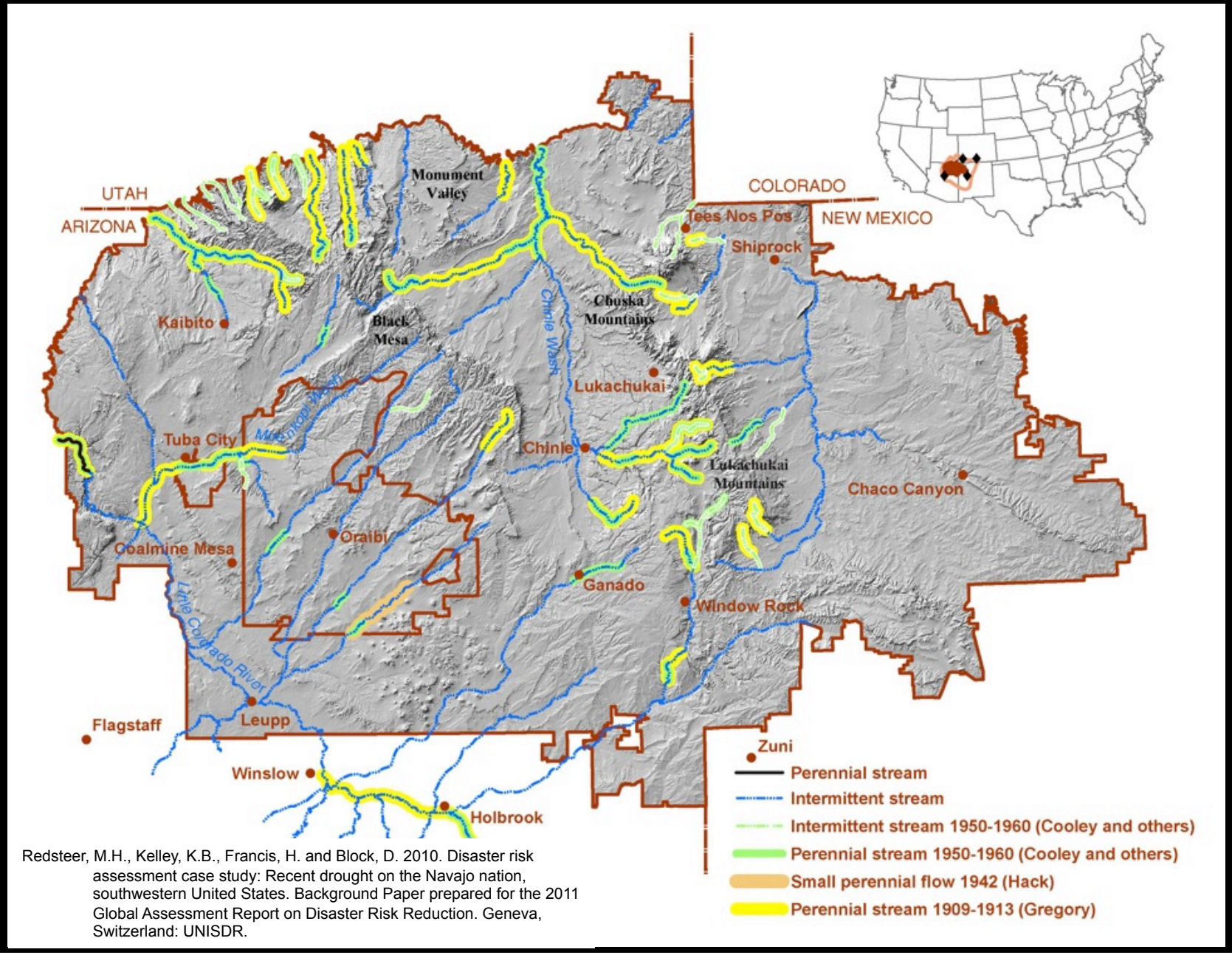
legally unique status has direct bearing on tribal resource management, ability to resolve conflicts, and relationship with federal and state agencies and governments



i.e., tribes confronting climate change face a different institutional context than any other group in U.S.

exposure to climate risk
&
impacts from climate change

hydrologic changes on Navajo Nation



Redsteer, M.H., Kelley, K.B., Francis, H. and Block, D. 2010. Disaster risk assessment case study: Recent drought on the Navajo nation, southwestern United States. Background Paper prepared for the 2011 Global Assessment Report on Disaster Risk Reduction. Geneva, Switzerland: UNISDR.

wildfire trends

Poomacha Fire, La Jolla Indian Reservation (Oct. 23, 2007)
Photo by Sean DuFrene / San Diego Union-Tribune

As one tribal member told a reporter, nearby municipalities "are newer places and people can leave and go elsewhere. …*This has been our home for generations. We have ties to the land. We won't go rebuild somewhere else*"

dryland agriculture and ranching


photo courtesy Hopi Dept of Nat. Res.


Fox Photos/Getty Images


Photo courtesy Hopi Dept. of Natural Resources

cultural impacts of climate change

For example, “sudden oak death” impacts on cultural foods, medicine, and dyes for basketry


http://dorothyramon.blogspot.com/2011/11/acorns.html


http://www.sciencedaily.com/releases/2007/08/070815145316.htm

tribal action on climate

adaptation

- Several climate-related planning efforts underway
  - some adaptation planning (e.g. Yurok Tribe, ITEP trainings/workshops)
  - flood and disaster planning
  - drought planning (NIDIS workshops)
- challenges
  - lack of adequate funding
  - potential conflict between fed trust responsibility to tribes and agency mandates (e.g., multi-use policies)
  - often lack of quality monitoring/data to support adaptation

mitigation examples

- several tribes have developed mitigation plans
- Pueblo of Jemez building utility scale solar
- Pinoleville Pomo Nation launched sustainable housing program
- Rincon Band of Luiseño Indians invested $13.5M in energy efficient retrofits and 1MW solar for their casino resort

conclusions

- tribal vulnerability high, partially as a result of institutional and historical circumstances
- very little research quantifying climate impacts on SW tribal lands
- SW tribes highly exposed to climate risks
- many tribal governments have limited resources for ongoing monitoring
- many Native communities have long legacies of adapting to climate, much to offer