

# Assessing Tribal College Priorities for Enhancing Climate Adaptation on Reservation Lands

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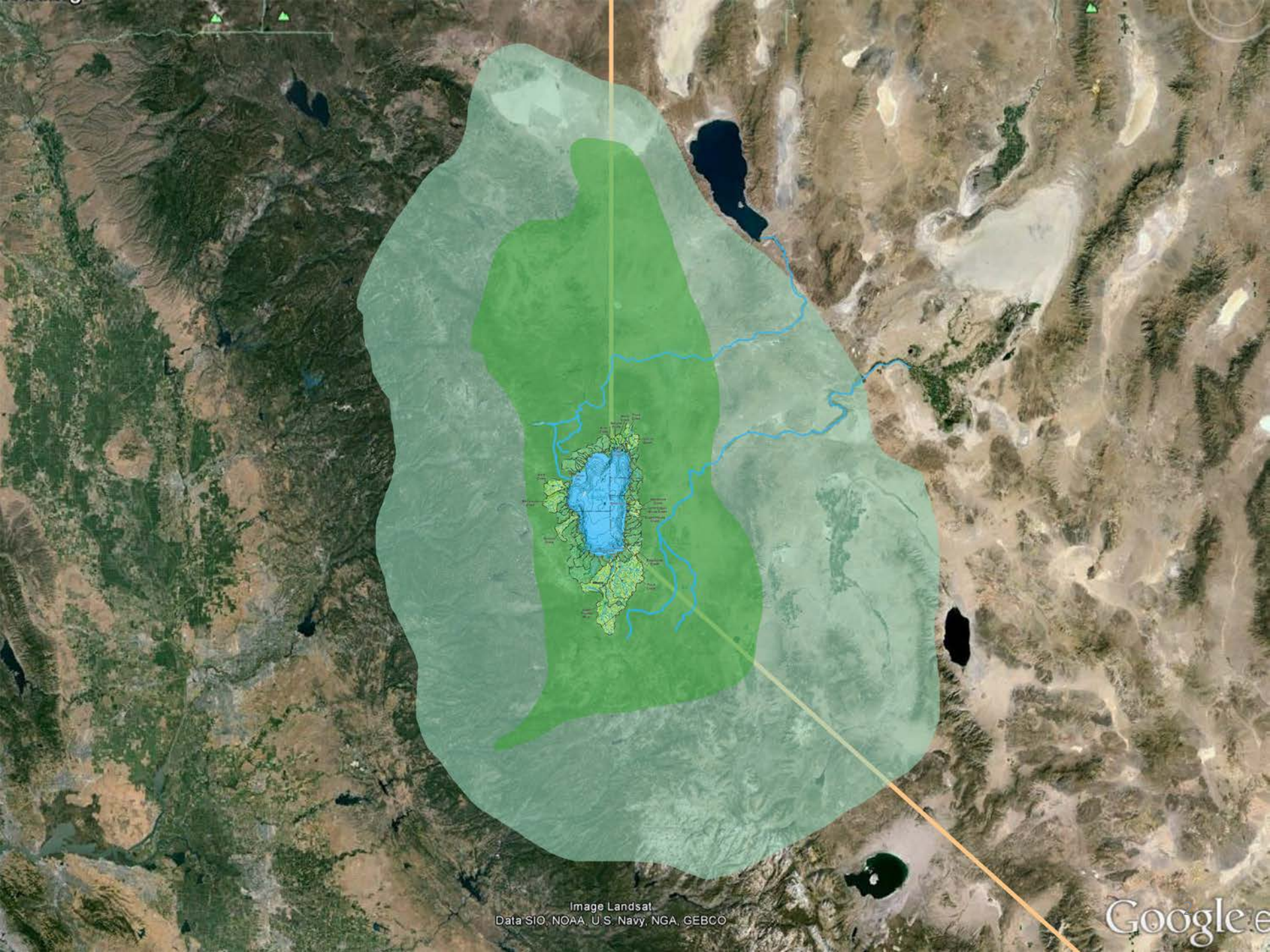


Image Landsat.  
Data SIO, NOAA, U.S. Navy, NGA, GEBCO

Google Earth

# Native Waters on Arid Lands

Overarching  
research/extension goal:  
Enhance climate  
resiliency of water  
resources on tribal lands  
(for agriculture)

...this means different things to  
different people

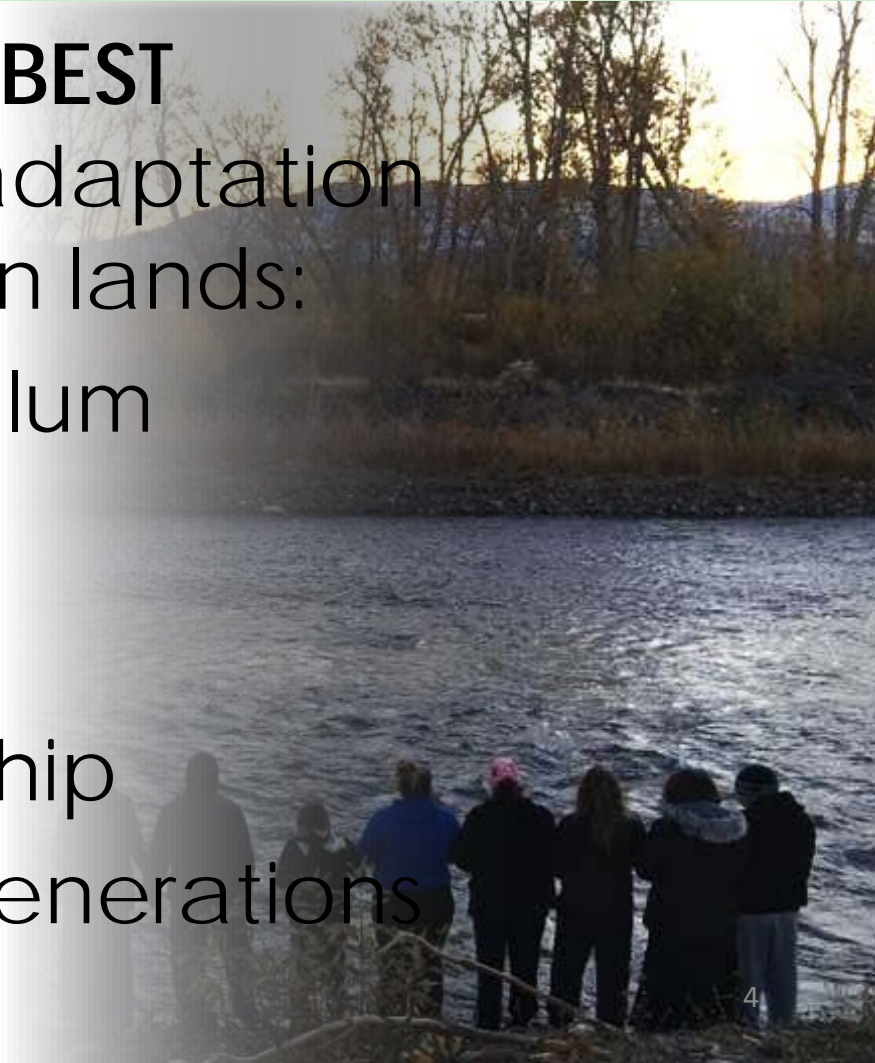
A group of about seven people are standing on a rocky bank, looking across a river. The background shows a wooded area with bare trees and a hazy sky, suggesting a cool or overcast day. The river flows from the upper right towards the lower left.

Thank you  
USDA NIFA

# Assessing Tribal College Priorities for Climate Adaptation on Reservation Lands

Tribal colleges are the **BEST** resources for climate adaptation planning on reservation lands:

- Well-rounded curriculum
- Applicable research
- Relevant knowledge
- Community relationship
- Engaging younger generations



# Tribal College Priorities

Assessment conducted at the  
2016 FALCON conference

Total N = 59

Administration = 23

Faculty = 19

Students = 7



# Tribal College Priorities

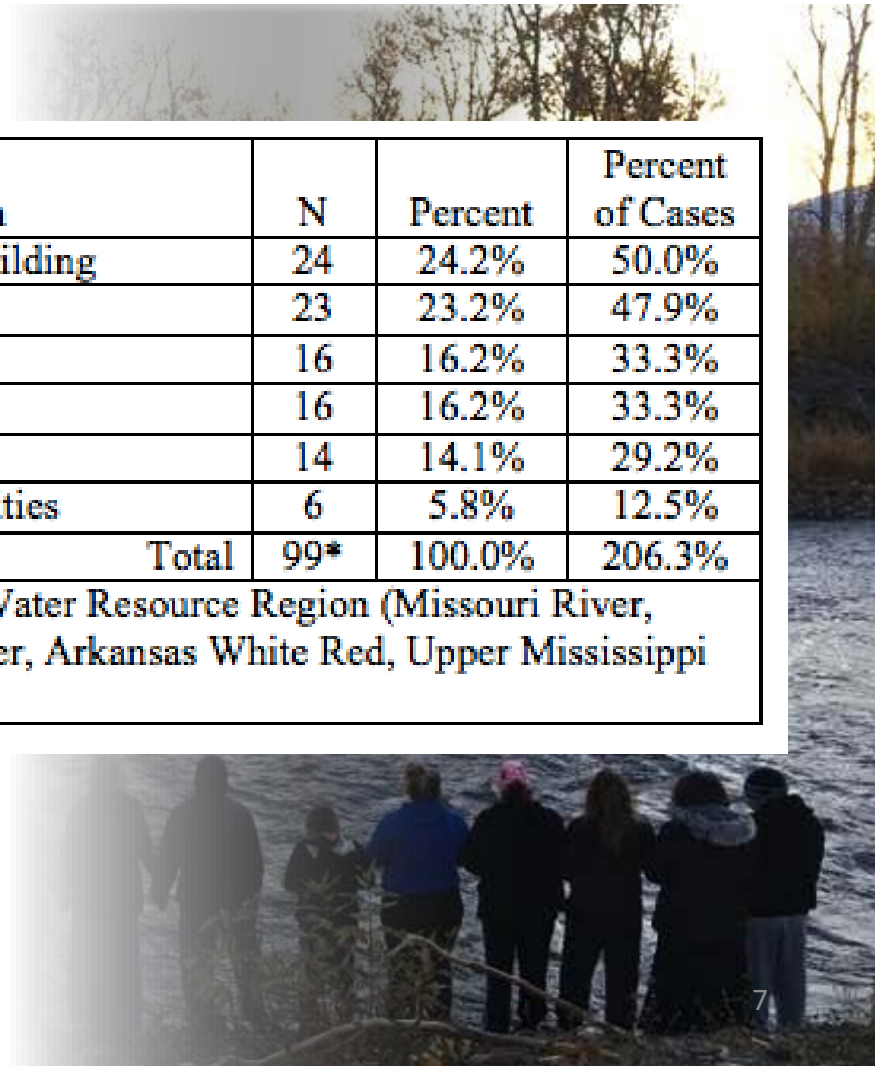
Rank	Topic	Mean Score	Std. Deviation
1	Increasing funding to tribal colleges to support teaching, research, and outreach focused on climate science, adaptation and related subjects	4.41	0.98
2	Supporting ongoing development of tribal college and tribal agency professionals	4.36 <sup>ab</sup>	0.73
3	Enhancing tribal food security through improved water management on tribal lands	4.19	1.04
4/5	Strengthening tribal economies through innovative water resource uses	4.04 <sup>a</sup>	1.10
4/5	Identifying adaptation strategies that compliment ongoing traditional indigenous practices	4.04	0.97
6	Assessing the impacts of climate change on tribal lands and water resources	4.00 <sup>a</sup>	0.98
7	Identifying climate adaptation strategies that address issues unique to tribal lands and water	3.99	0.97
8	Identifying traditional indigenous practices that inform tribal climate adaptation strategies	3.93 <sup>a</sup>	1.09
9/10	Building/strengthening working relationships with 1862 land-grant university faculty and students	3.91	1.00
9/10	Assessing the impacts of climate change on tribal economies	3.91	1.12
11	Financing implementation of tribal climate adaptation plans	3.88	1.18
12	Exploring climate adaptation plans and strategies through annual tribal climate summits	3.65	1.21
Rating code: 1 = very low priority; 2 = low priority; 3 = neutral; 4 = high priority; 5 = very high priority.			
<sup>a</sup> Significance = $p < 0.10$ , TCU role (administration, faculty, student)			
<sup>b</sup> Significance = $p < 0.10$ , TCU location aridity (arid, semi-arid, non-arid)			



# Tribal College Priorities

Rank	TCU Priorities to Support Climate Adaptation	N	Percent	Percent of Cases
1	Research Education Support and Capacity Building	24	24.2%	50.0%
2	Food Sovereignty and Adaptive Agriculture	23	23.2%	47.9%
3/4	Community Engagement and Collaboration	16	16.2%	33.3%
3/4	Water Quality and Quantity Issues <sup>a</sup>	16	16.2%	33.3%
5	Ecologic Interactions and Services	14	14.1%	29.2%
6	Renewable and Alternative Energy Opportunities	6	5.8%	12.5%
Total		99*	100.0%	206.3%

<sup>a</sup> Significance  $p < 0.10$ , TCU location within USGS Water Resource Region (Missouri River, Lower Colorado River, Great Lakes, Rio-Grande River, Arkansas White Red, Upper Mississippi River, Souris-Red-Rainy, and Pacific Northwest)



# Tribal College Priorities

TCU Priorities to Support Climate Adaptation	Percentages					
	TCU role			TCU Location (Aridity)		
	Admin.	Faculty	Student	Arid	Semi-Arid	Non-Arid
Research Education Support and Capacity Building	<b>60.0%</b>	<b>33.3%</b>	40.0%	50.0%	62.5%	38.5%
Food Sovereignty and Adaptive Agriculture	<b>40.0%</b>	<b>66.7%</b>	<b>60.0%</b>	43.8%	<b>62.5%</b>	38.5%
Community Engagement and Collaboration	25.0%	26.7%	<b>60.0%</b>	37.5%	25.0%	30.8%
Water Quality and Quantity Issues	35.0%	33.3%	40.0%	<b>37.5%</b>	18.8%	<b>46.2%</b>
Ecologic Interactions and Services	30.0%	40.0%	0.0%	18.8%	<b>31.3%</b>	<b>46.2%</b>
Renewable and Alternative Energy Opportunities	15.0%	6.7%	20.0%	<b>18.8%</b>	6.3%	7.7%

Note: The results reported here represent the percentage of participants by TCU role and location (e.g., arid, semi-arid, or non-arid climates) whose responses to the open-ended question resonated with the goals as listed. Percentages do not add to 100% because respondents were asked to give multiple responses to this individual question item.



# Tribal College Priorities

Findings:

Tribal colleges are  
underfunded



# Title: Assessing Tribal College Priorities for Enhancing Climate Adaptation on Reservation Lands

Paper submitted (pending review)

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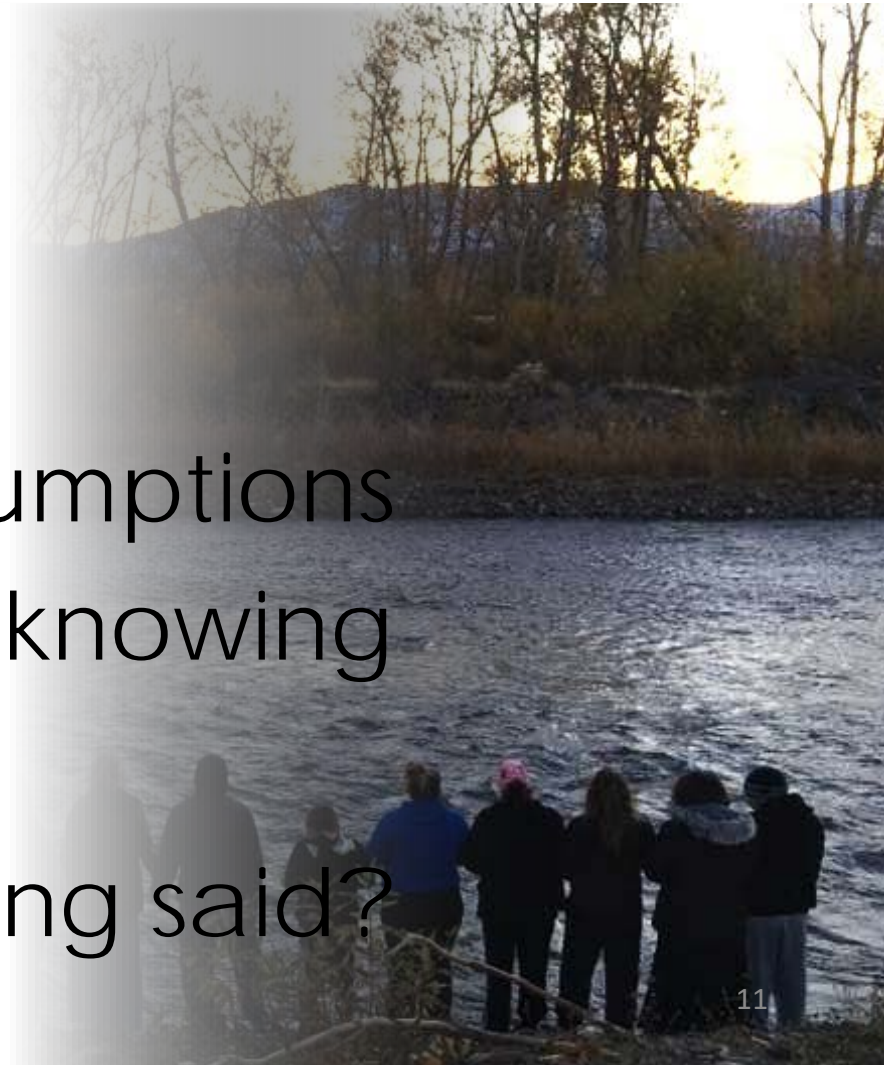
# Climate resiliency on tribal lands

Moving forward...

Assumptions

Different ways of knowing

What's not being said?



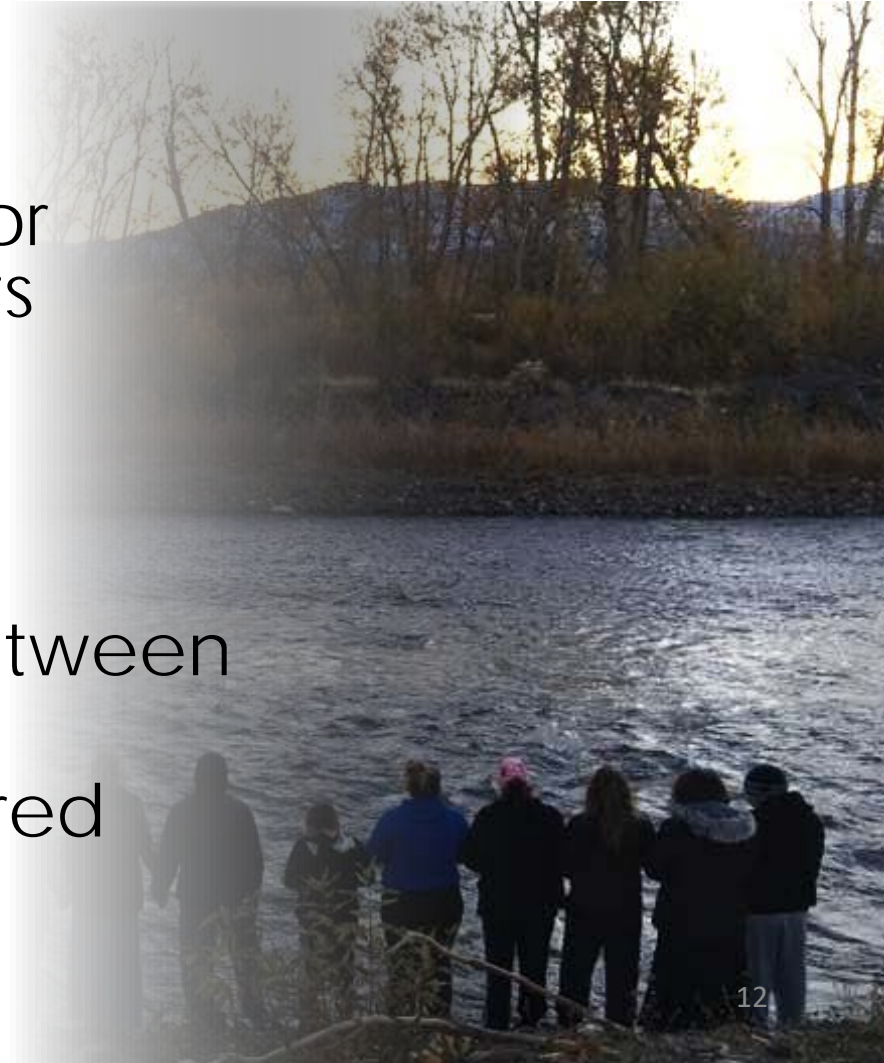
# Climate resiliency on tribal lands

Western perspective:

- Economic diversity
- Infrastructural support for extreme weather events

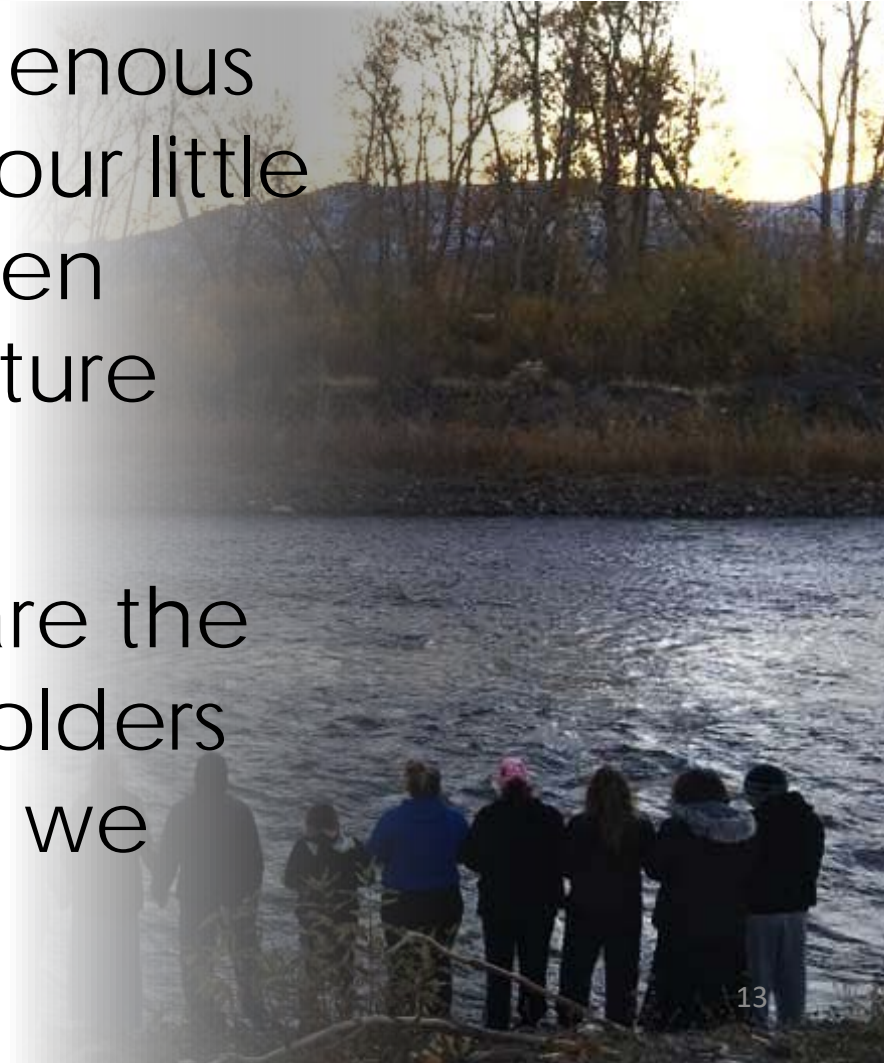
Indigenous perspective:

- Inherently resilient
- Particular issues vary between each community
- Sense of urgency is shared throughout



# Climate resiliency on tribal lands

- Our purpose as indigenous people is to protect our little world for at least seven generations in the future
- Indigenous people are the expert knowledge holders of the lands in which we exist

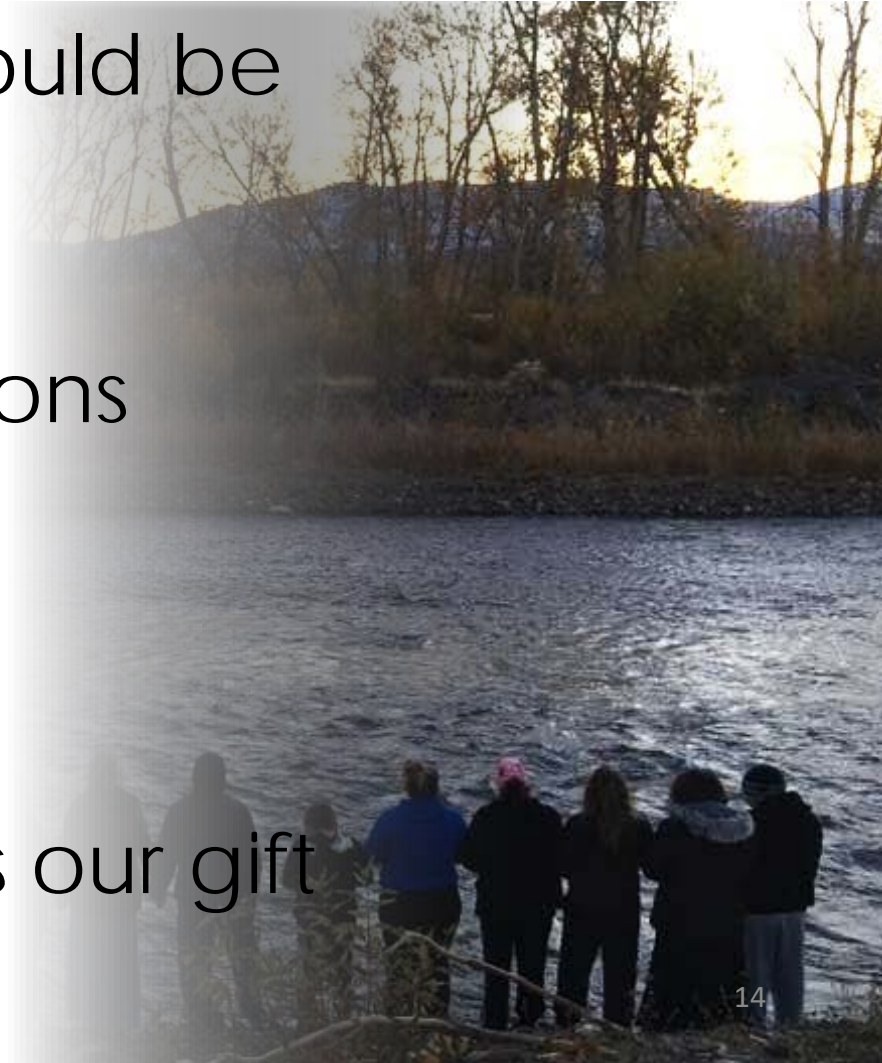


# Climate resiliency on tribal lands

Indigenous people should be leading

- environmental management decisions
- climate adaptation planning
- etc.

This is our gift



# Community



# Thank you

## Questions

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