



Southwest Climate  
Adaptation Science Center



# Connecting Climate Networks

## SW CASC Tribal-Focused Engagements and Opportunities

**Althea Walker**  
**Tribal Resilience Liaison**

2021 Spring Webinar Series: Highlighting Recent SWCASC Research

MARCH 11, 2021

# Welcome

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- Thank you to all who have joined us today!
- In the chat box, please enter your name, tribal and/or organization affiliation, and where you are calling in from.
- At any time during the presentation, please enter your question into the chat box, or virtually or physically raise your hand to ask your question.
- If you aren't speaking, please ensure your microphone is on mute.
- This webinar is being recorded.

# Introduction of SW CASC Staff

## SW CASC STAFF



**Stephen Jackson**  
Federal Director  
USGS  
stjackson@usgs.gov



**Gregg Garfin**  
University Director  
University of Arizona  
gmgarfin@arizona.edu



**Carolyn Enquist**  
Deputy Director  
USGS  
cenquist@usgs.gov



**Anita Govert**  
Assistant Director  
University of Arizona  
agovert@arizona.edu



**Mattias Amezcuita-Fox**  
Website Coordinator  
University of Arizona  
amezcuitafox@arizona.edu



**Molly Hunter**  
Research Manager  
USGS  
mollyhunter@arizona.edu



**Sarah LeRoy**  
Science Communications Coordinator  
University of Arizona  
sary21@arizona.edu



**Bryson Mineart**  
Student Assistant  
University of Arizona  
brysonmineart@arizona.edu



**Amber Pairis**  
Partnership Liaison  
USGS  
Desert Research Institute  
Amber.Pairis@DRI.edu



**Khuyen Stroud**  
Research Administrator  
University of Arizona  
khuyh@arizona.edu



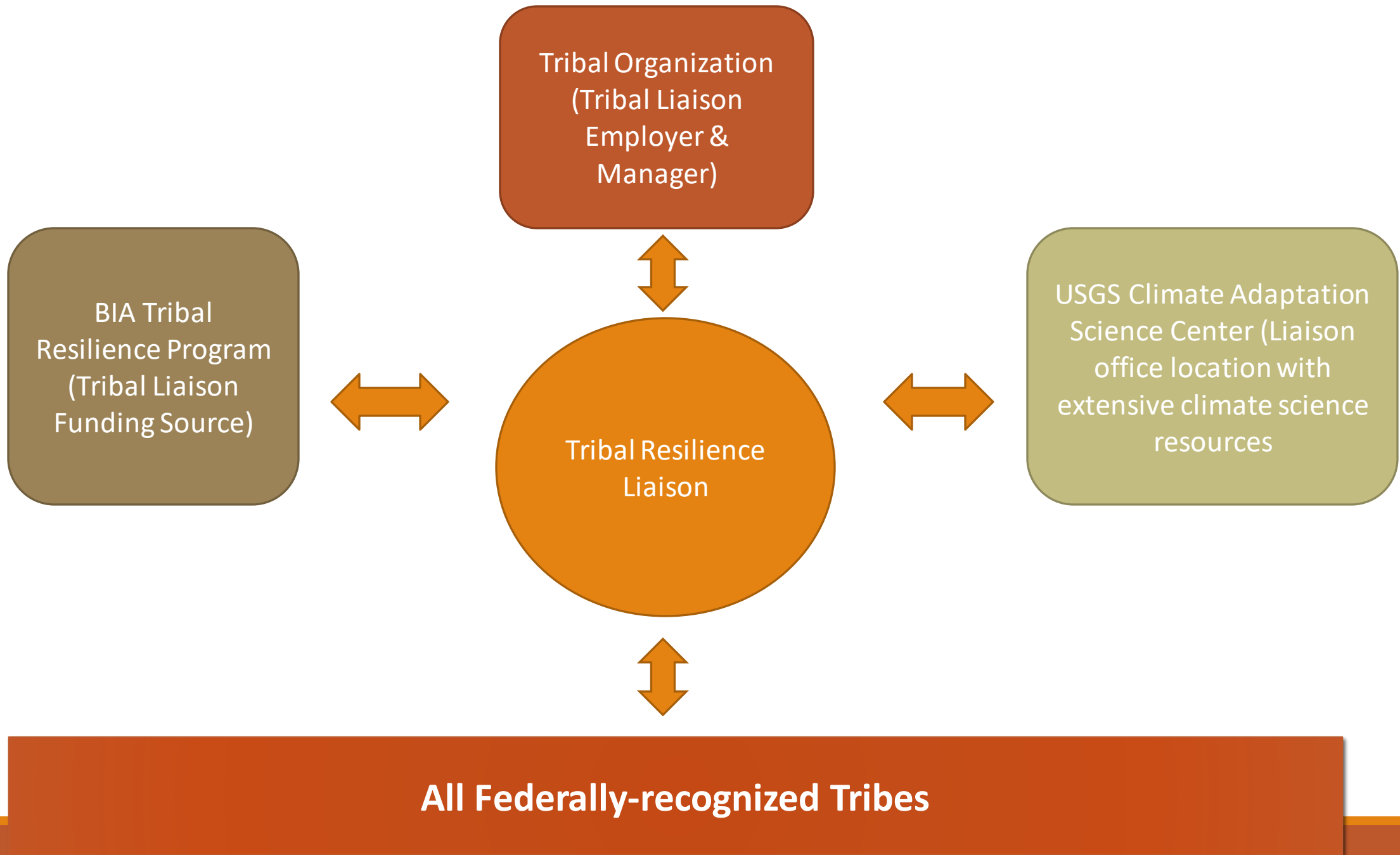
**Althea Walker**  
Tribal Climate Adaptation Science Liaison  
American Indian Higher Education Consortium  
awalker@aihec.org



**Alicia Azpeleta Tarancón**  
Fire and Climate Adaptation Coordinator  
USGS  
Alicia.Azpeleta-Tarancón@nau.edu



**Missy Matty**  
Administrative Officer  
USGS  
mmatty@usgs.gov



# BIA Tribal Resilience Program (TRP)

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To build capacity and resilience of Federally-recognized Tribal Nations and Alaska Native Villages through both technical and financial assistance through

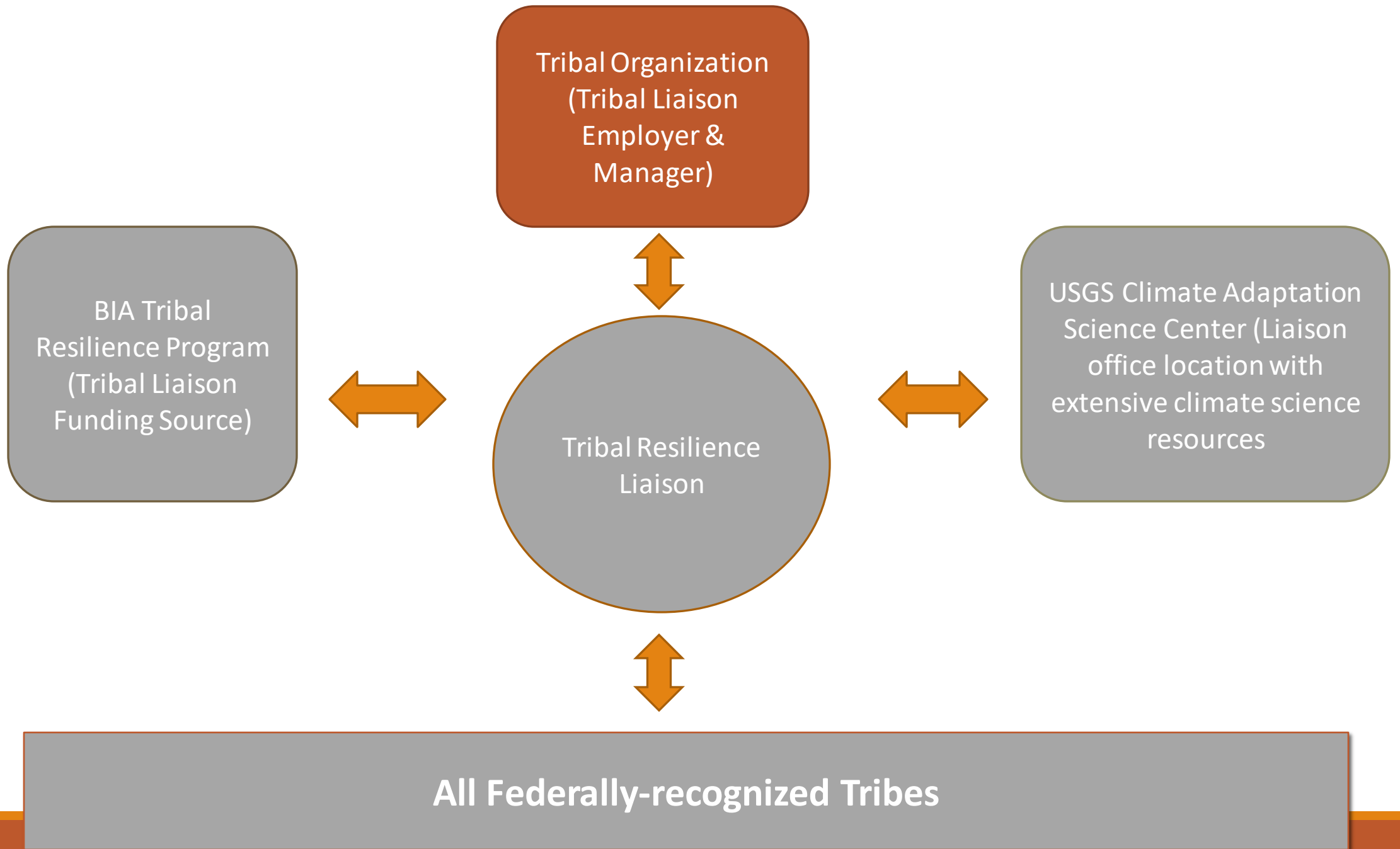
- Delivery of data and tools
- Access to training and workshops
- Facilitation of planning for climate adaptation and ocean and coastal management

# TRP Resilience Liaison Roles

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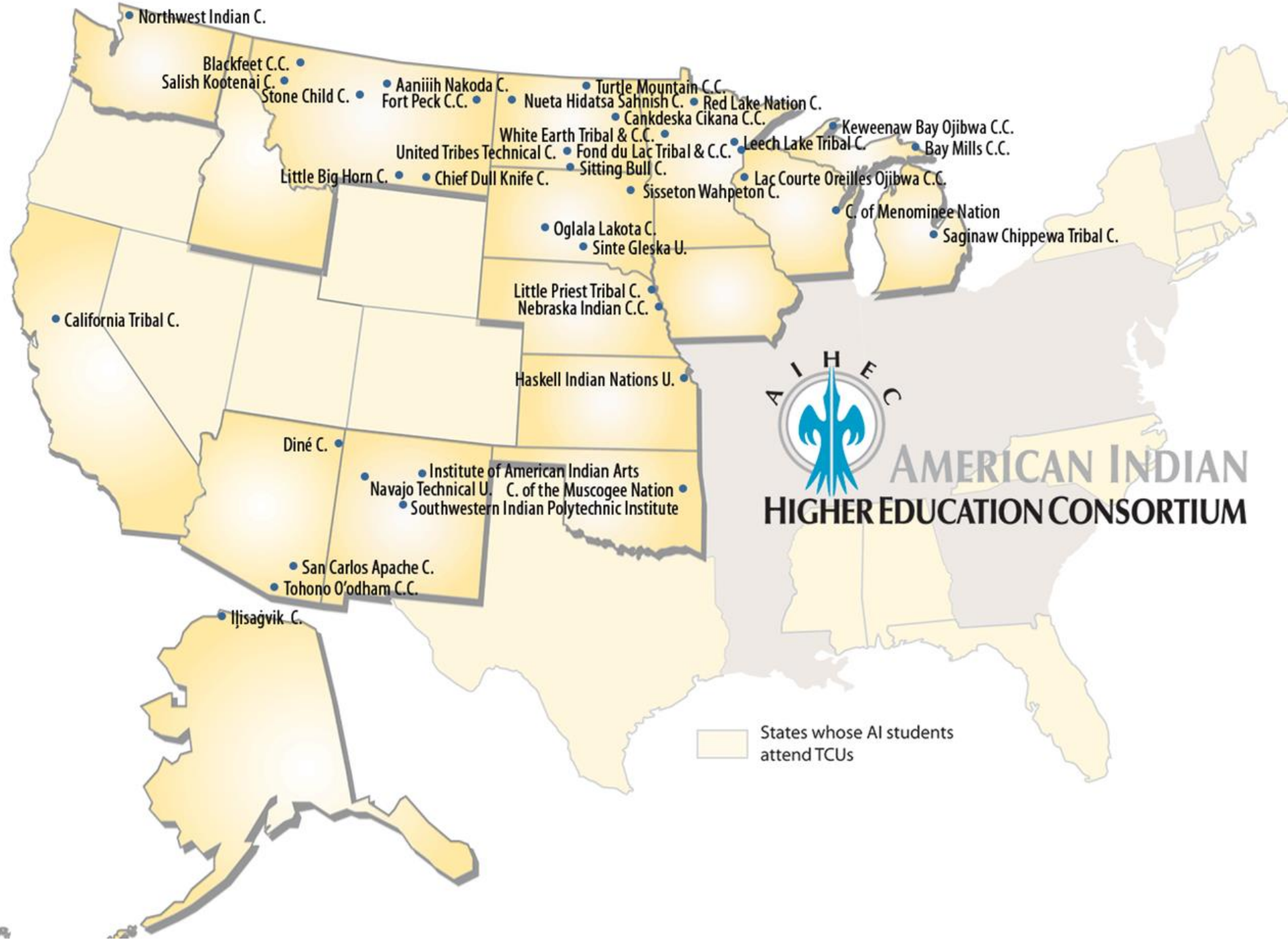
- Serve as climate extension agents for tribes:
  - Work with Tribal Nations to best access and utilize information, data, and expertise available at the CASCs
  - Facilitate research and collaboration
  - Coordinate forums and information exchange
  - Support tribal proposals for BIA TRP





- Established in 1973 by the first 6 tribally-controlled colleges
- AIHEC provides leadership and influences public policy on American Indian and Alaska Native higher education issues through advocacy, research, and programmatic initiatives
- Promotes and strengthens Indigenous languages, cultures, communities, lands, and tribal nations; and through its unique position, serves the 38 member institutions and emerging TCUs.





States whose AI students attend TCUs

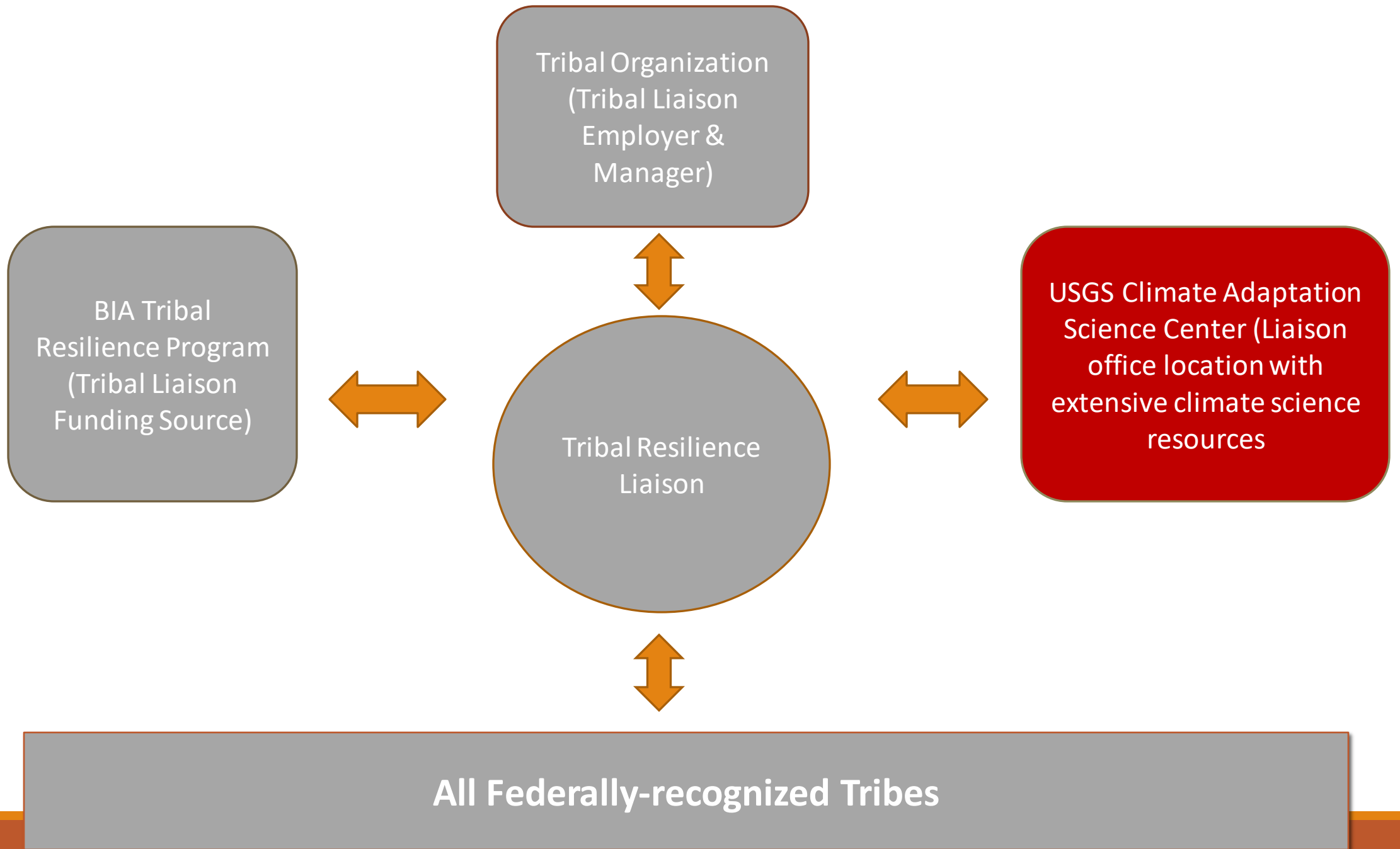


- 38 TCUs operating across 75 campuses and sites in the U.S., with a student/faculty ratio of 8:1.
- Average annual TCU tuition of \$2,937 makes a TCU education the most affordable in the nation.
- 85 percent of TCU students receive federal financial aid.
- All TCUs offer associate degree programs; 14 offer baccalaureate programs; five offer master's degree programs.
- Place-based learning

# Other Host Tribal Organizations

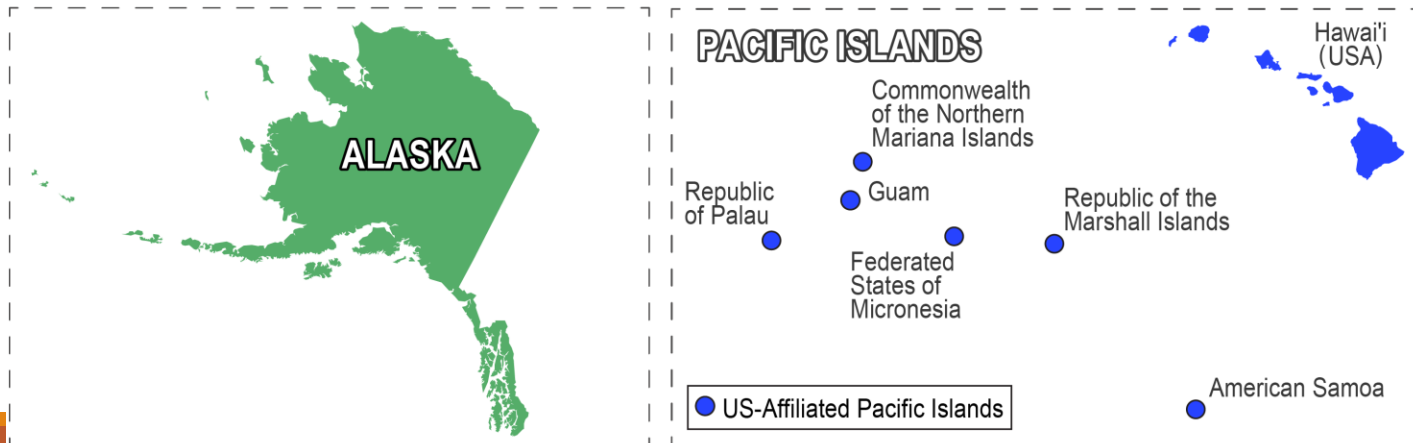
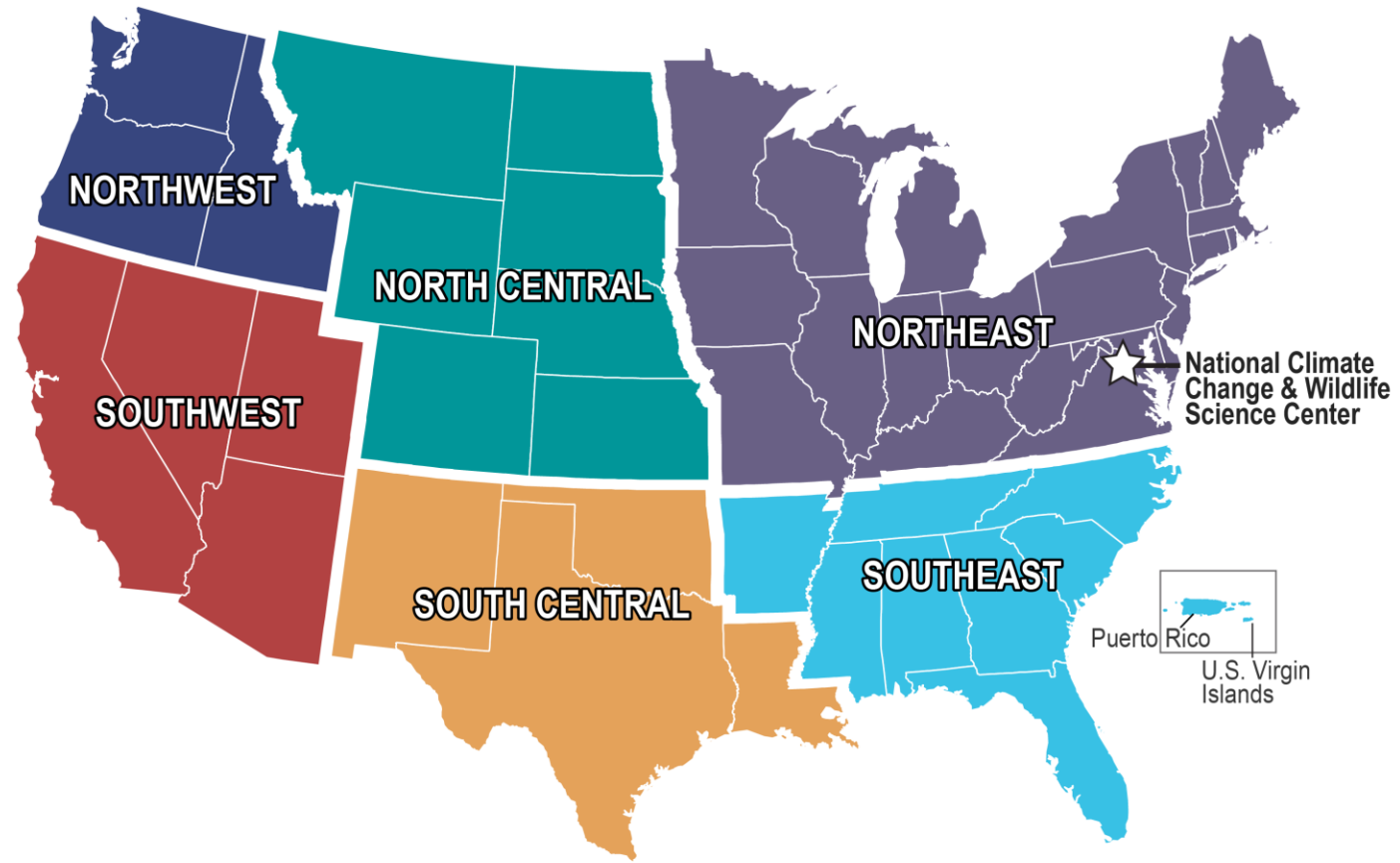
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- Aleutian Pribilof Islands Association (Alaska)
- Affiliated Tribes of Northwest Indians (Northwest)
- American Indian Higher Education Consortium (Southwest)
- College of Menominee Nation Sustainable Development Institute (Midwest)
- Great Plains Tribal Water Alliance (North Central)
- United South & Eastern Tribes, Inc. (Northeast/Southeast)



# The CASCs

- 9 regional centers
- Climate adaptation
- Federal, state, tribal, regional, local partners





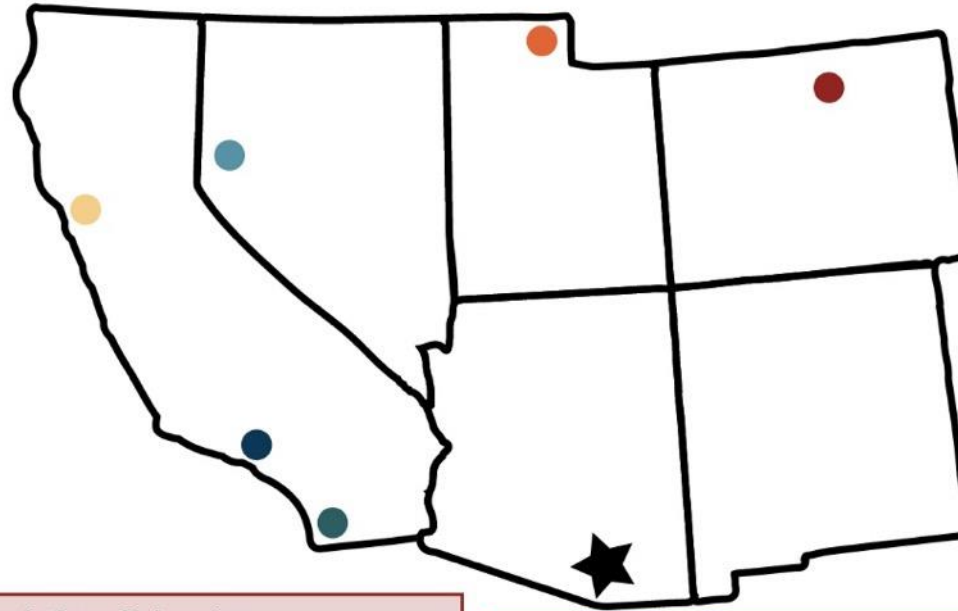
The mission of the Southwest Climate Adaptation Science Center is to work with natural and cultural resource managers to develop and deliver scientific information and techniques to anticipate, monitor, and adapt to climate change in the southwestern United States

# SW CASC Consortium



# Consortium Members

## SW CSC Expertise and Institutional Connectivity



**Colorado State University**  
**Erica Fleishman:** ecology and conservation biology  
**Brad Udall:** water policy, climate adaptation

Colorado NHP • Colorado FS • Coop Extension • DOI NC CSC • USDAFS RMRS • USFWS NRP • USGS CO CFWRU • USGS FCSC

**Scripps Institution of Oceanography (University of California, San Diego)**  
**Alexander Gershunov:** extreme weather and climate variability  
**Dan Cayan:** meteorology, oceanography, and hydrology

NOAA RISA - CNAP • USGS CA WSC • NOAA SFSC • NWS San Diego • CDFW

**Utah State University**  
**Nancy Huntly:** ecology, human ecology, and climate adaptation  
**Michelle Baker:** aquatic and ecosystem ecology

BLM • USDAFS RMRS • USDA NWRC • USGS UT CFWRU • Utah Climate Center • UDWR • Coop Extension

**University of California, Los Angeles**  
**Glen MacDonald:** long-term climate and environment dynamics  
**Rich Ambrose:** restoration, environmental health, and conservation biology

NOAA Sea Grant • NPS Santa Monica NRA • Santa Monica Bay Restoration Commission

**University of Arizona**  
**Gregg Garfin:** climate impacts and climate adaptation  
**Alison Meadow:** anthropology, evaluating use of climate information

NOAA RISA – CLIMAS • Coop Extension • USGS AZ WSC • USGS AZ CFWRU • USGS NPN • USGS SDRS

**University of California, Davis**  
**Mark Schwartz:** conservation biology and ecosystem management  
**Beth Rose Middleton:** Native studies, environmental law and policy

CDFW • CA LCC • Delta Science Program • USDA California Climate Hub • USDAFS PSRS • USGS WERC • Coop Extension

**Desert Research Institute**  
**Tamara Wall:** wildfire social science, evaluating use of climate information  
**Tim Brown:** wildland fire science and management

BLM • Nevada Division of Forestry • NIFC Predictive Services • NOAA RISA - CNAP • NOAA WRCC • USFWS • USGS WGSC



# Tribal Engagement Strategy 2020-2022

- Executive Summary
- Diversity of the Southwest
- Tribal Climate Actions
- Role of the SW CASC
- Principles that guide us
  - Tribal Sovereignty
  - Research Practices
  - Data Sovereignty and Intellectual Property Rights
  - Cultural Competency
- Proposed Tribal Engagement Activities
- Partners in Tribal Engagement
- Opportunities for Tribal Engagement



Tribal Engagement Strategy  
June 2020

# Proposed Activities 2020-2022

- Southwest Adaptation Forum
- Tribal Partner Roundtables
- Tribal Site Visits
- Cultural Sensitivity & Tribal Engagement Training
- Natural Resource Workforce Development Fellowship - Tribal Fellow
- Tribal Travel Support
- Consortium Member Tribal Related Projects
- Tribal Resilience Liaison





# 2021 Southwest Adaptation Forum



April 6-8, 2021



Venue: Virtual

<https://www.climatealliance.org/swaf>

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## Tribal Partner Roundtables

- The Partner Roundtables are to increase the feasibility of adaptation actions through iterative, collaborative discussions between researchers and practitioners.

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## Tribal Site visits

- Build relationships with tribal nations and communities through proven engagement strategies including in-person communication with Tribal leaders and department directors/staff during site visits.

# Cultural Sensitivity Training

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- Fostering Authentic Engagement with Tribal Communities
  - Tribal Sovereignty
  - Active Listening
  - Wisdom & Reciprocity: Collaborating with Tribal Nations
  - Planning for Full and Equal Partnership and the Longevity of Collaborations



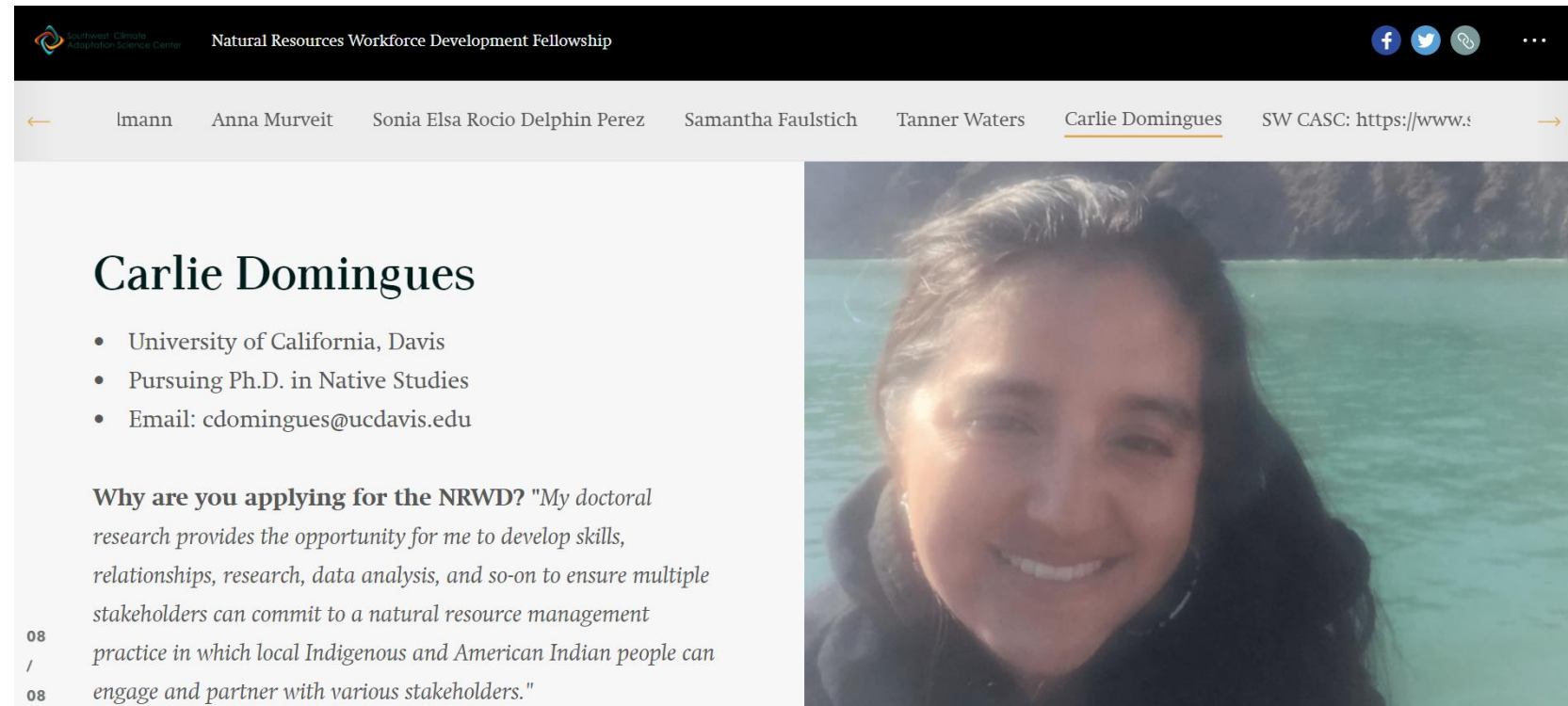
# SW CASC Natural Resource Workforce Development Fellowship

- Open to graduate students enrolled in research-based thesis or dissertation-granting programs at the seven SW CASC consortium institutions
- One applicant from each institution
- Fellows will work as a team to conduct research
- Stipend of \$5,000/travel allowance of \$1000 for cohort meeting that occurs away from their home campus
- 2019-2020 theme: Improved understanding of the linkages between the management of headwater ecosystems and downstream water resources.
- Tribal Fellow
  - Dr. Lydia Jennings (Pascua Yaqui and Huichol) – University of Arizona



# SW CASC Natural Resource Workforce Development Fellowship

- 2020-2021 theme: Management in the aftermath of landscape-scale disturbances.
- Meet all of the fellows in this [story map](#).
- Tribal Fellow
  - Carlie Domingues (Chumash and Mexican) – UC Davis



Southwest Climate Adaptation Science Center

Natural Resources Workforce Development Fellowship


← Imann Anna Murveit Sonia Elsa Rocio Delphin Perez Samantha Faulstich Tanner Waters Carlie Domingues SW CASC: <https://www.s> →

## Carlie Domingues

- University of California, Davis
- Pursuing Ph.D. in Native Studies
- Email: [cdomingues@ucdavis.edu](mailto:cdomingues@ucdavis.edu)

**Why are you applying for the NRWD?** *"My doctoral research provides the opportunity for me to develop skills, relationships, research, data analysis, and so-on to ensure multiple stakeholders can commit to a natural resource management practice in which local Indigenous and American Indian people can engage and partner with various stakeholders."*

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# Tribal Travel support

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- The SW CASC commits to supporting the participation of tribal students, practitioners, and leaders in roundtables and annual thematic small regional meetings, through travel funds explicitly available for this purpose.
- Travel Funding Examples:
  - Southwestern Tribal Climate Summit
  - Southwest Adaptation Forum
  - Rising Voices



# Examples of Consortium Member Projects

- [Beth Rose Middleton](#) (UC Davis) - Future of Fire in the Southwest: Towards a National Synthesis of Wildland Fire
  - 1) the state of the science and practice on how climate change is currently affecting and projected to transform fire processes in the Southwest
  - 2) how projected changes fit within the context of national patterns and trends
  - 3) the implications of these changes for natural resource management and climate change adaptation efforts in the Southwest
  - 4) Indigenous perspectives on the application of fire in the context of a changing climate.
- [Native American Cultural Burning webinar May 2020](#)
  - Webinar highlights Beth Rose's work with the Honorable Ron Goode (North Fork Mono)
- Dan Cayan (Scripps) & Amber Pairis (Partnership Liaison) – [Manzanita 2019 Tribal Resilience Project](#)
  - The integration of regionally-specific climate science and Traditional Knowledge to advance Manzanita's climate resilience planning, helping safeguard the Tribe's cultural and traditional resources and practices. The project team, including Dan had the opportunity to visit the Reservation, meet with Tribal members and staff, and share ideas and stories to include in the project.



# Examples of SW CASC Funded Projects

A Climate-Informed Conservation Strategy for Southern California's Montane Forests

Forest Monitoring and Tree Ring Data to Inform Forest Management on the Navajo Nation

Pyramid Lake Paiute Tribe Traditional Knowledge and Climate Change Adaptation

Synthesizing Climate Change Impacts on Wildlife Health and Identifying Adaptation Strategies

Continued Partnerships to Increase Capacity for Tribal Natural Resource Adaptation Planning

Anticipating Future Impacts of Temperature on Streamflow in the Colorado River Basin

Please visit Project Explorer  
<https://cascprojects.org/#/casc/southwest> to learn more.

Funding Year	Title	Principal Investigator(s)	Topic(s)	Status	Contains
2020	A Climate-Informed Conservation Strategy for Southern California's Montane Forests	Hugh Safford (USDA Forest Service Pacific SW Region)	Science Tools for Managers Wildlife and Plants Landscapes Drought, Fire and Extreme Weather	In Progress	
2020	Can Management Actions Support Forest Regeneration Across the Diverse Landscapes and Climate Change Futures of the Southwestern U.S.?	John Bradford (USGS Southwest Biological Science Center)	Landscapes Wildlife and Plants	In Progress	
2020	Learning From the Past and Planning for the Future: Experience-Driven Insight Into Managing for Ecosystem Transformations Induced by Drought and Wildfire	Seth Munson (USGS Southwest Biological Science Center)	Science Tools for Managers Drought, Fire and Extreme Weather	In Progress	
2020	Science to Help Move From Mortality to Recovery in Western Forests and Woodlands	Donald A. Falk (University of Arizona)	Wildlife and Plants Landscapes Drought, Fire and Extreme Weather	In Progress	
2019	A Synthesis of Climate Change Refugia Science and Management Actions to Inform Climate Adaptation in the Colorado River Basin	Toni Lyn Morelli (Northeast CASC)	Science Tools for Managers	In Progress	

# Examples of Liaison Projects

- North Fork Mono Cultural Burn February 2020
- Tribal Climate Camps
  - Summer 2019 Confederated Salish & Kootenai Tribes
  - (Postponed) Summer 2020 Navajo Nation
- Inter-Tribal Council of Arizona Resiliency Workshop Series
  - Building Tribal Resiliency (Phoenix, AZ)
  - Inhale Resilience, Exhale Solutions (Mesa, AZ)
  - Wildfire, Ecosystem, & Indigenous Well-Being (Flagstaff, AZ)
  - Virtual Data & Research Priorities for Southwest Tribal Climate Resilience Summit
- Climate Science Alliance
  - Tribal Working Group
  - San Diego Climate Summit
  - Southwest Adaptation Forum



[Burn in February 2020](#)



## Examples of Liaison Projects

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- Indigenous Foods Knowledges Network - Impact of COVID-19 on Food Access in Indigenous Communities in the Arctic and U.S. Southwest: A Comparative Landscape Analysis
- Institute for Tribal Environmental Professionals
  - Tribes & Climate Change Program Advisory Committee
  - Climate Change 101s
    - New Mexico – instructor
    - Southwest
  - Status of Tribes & Climate Change report – coming soon

# Opportunities

- Students

- [2021-2022 NRWD](#) Due March 24, 2021
  - Endangered streams: building strong and authentic bridges between science and practice to understand impacts of future water flows on aquatic ecosystems.
- BIA Pathways Internship – Application open until March 19
  - <https://www.usajobs.gov/GetJob/ViewDetails/592339300>

- Practitioners

- [BIA TRP Funding – due April 23, 2021](#)
- SW CASC Tribal SOI
  - Due December 2020
  - Currently reviewing full proposals
  - Notified of award March 2021
- CASC Call for SOI – Due March 19, 2021 at 5pm EDT



# SW CASC FY22 Funding Opportunity

## Introduction and timeline

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- The SW CASC intends to fund **5-8 projects**
- Project awards should generally not exceed **\$350,000** (inclusive of indirect/overhead/pass-through costs) for the life of the project
- Project duration should generally not exceed 24 months
- Deadline for Statements of Interest: **March 19**
- Full Proposals Invited (Planned): **April 22**
- Deadline for Submission of Full Proposals: **July 23**
- Notification of Intent to Award: **September 8**
- [swcasc.arizona.edu](http://swcasc.arizona.edu) (link to funding opportunity document)





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# FY22 Science Priorities

1. Indigenous practices of ecosystem management and restoration in the context of climate change and adaptation
2. Management implications of mega-disturbance events and ecological transformation
3. Climate-informed management of natural resources in coastal, freshwater, and riparian ecosystems to support effective climate adaptation
4. Application of existing decision-support tools for climate adaptation (small grants)

[February 19 webinar recording](#)

Deadline for Statements of Interest: **March 19**



# Upcoming Events


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- Southwest Adaptation Forum
- National Park Service Webinar April 28 10am MST
  - [Navigating the CASCs](#)
- Southwestern Tribal Climate Summit
  - January 2022
  - [Climate Hope](#) (2019)
- Tribal Climate Camp – multiple funded for 2020 NE, NW, SW, AK



# Website - <https://www.swcasc.arizona.edu>

- [SW CASC Newsletter](#)
- Podcast – Come Rain or Shine
  - Climate Hope – Ann Marie Chischilly & Amber Pairis
- Webinar recordings
  - Webinars based on tribal interests and information needs
    - [Coping with Crisis: Building Psychosocial Resilience in the Face of Climate Change](#)
    - [Native American Cultural Burning](#)




**EcoClimate News**  
**Southwest**

March 2021

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**Reflections from Carolyn Enquist**  
SW CASC USGS Deputy Director



The Southwest Climate Adaptation Science Center is pleased to announce the [2021 Southwest Adaptation Forum \(SWAF\)](#), in partnership with the [Climate Science Alliance](#), April 6-8, 2021! At SWAF 2021, adaptation practitioners and researchers will gather again, this time virtually, to build on takeaways from the inaugural 2018 SWAF. Together, we will:

# Links to Tools and Resources

[Southwest Climate Adaptation Science Center Newsletter](#)

[National Climate Assessment Actions Web Map](#)

[Tribal Resilience Resource Guide](#)

[UW Tribal Climate Tool](#)

[UW Tribal Climate Resource Site](#)

[US Climate Resilience Toolkit](#)

[USGS ARIES Ecosystem Services Modeling Software Info](#)

[Climate Engine](#)

[Tribal Climate Adaptation Guidebook](#)

[Data Sovereignty](#)

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Althea Walker, CPM, LEED Green Associate  
Tribal Climate Adaptation Science Liaison  
American Indian Higher Education Consortium  
SW Climate Adaptation Science Center

**[awalker@aihec.org](mailto:awalker@aihec.org)**

**Mobile: (480)258-3963**