

Tribal Climate and Health Adaptation Webinar Series

Webinar 1: Introduction & Climate and Health 101

January 21, 2020



PROSPER
Building Thriving Communities
SUSTAINABLY

Welcome



Purpose:

An interactive training with tribal-serving professionals to build capacity, knowledge, and readiness to better plan for and address the health impacts of climate change

Help tribes make steps towards climate and health adaptation

Facilitate regional, multidisciplinary collaboration where useful

Continue building a learning community and improving curriculum



Climate and health: an urgent matter

May 2019:

"This moment is one of extraordinary consequence. Actions taken by all nations over the next decade will determine whether global health will continue to improve or whether it will instead decline—possibly catastrophically so—as a result of climate change."

"Health professionals can make a critical difference."

plos.org

 **PLOS** | MEDICINE

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 OPEN ACCESS

EDITORIAL

Limiting global warming to 1.5 to 2.0°C—A unique and necessary role for health professionals

Edward W. Maibach , Mona Sarfaty, Mark Mitchell, Rob Gould

Published: May 14, 2019 • <https://doi.org/10.1371/journal.pmed.1002804>

| Article | Authors | Metrics | Comments | Media Coverage |
|---|---------|---------|----------|----------------|
|  | | | | |

Emerging Wellness Strategy in Practice

Getting calm, centered and connected



Trainers



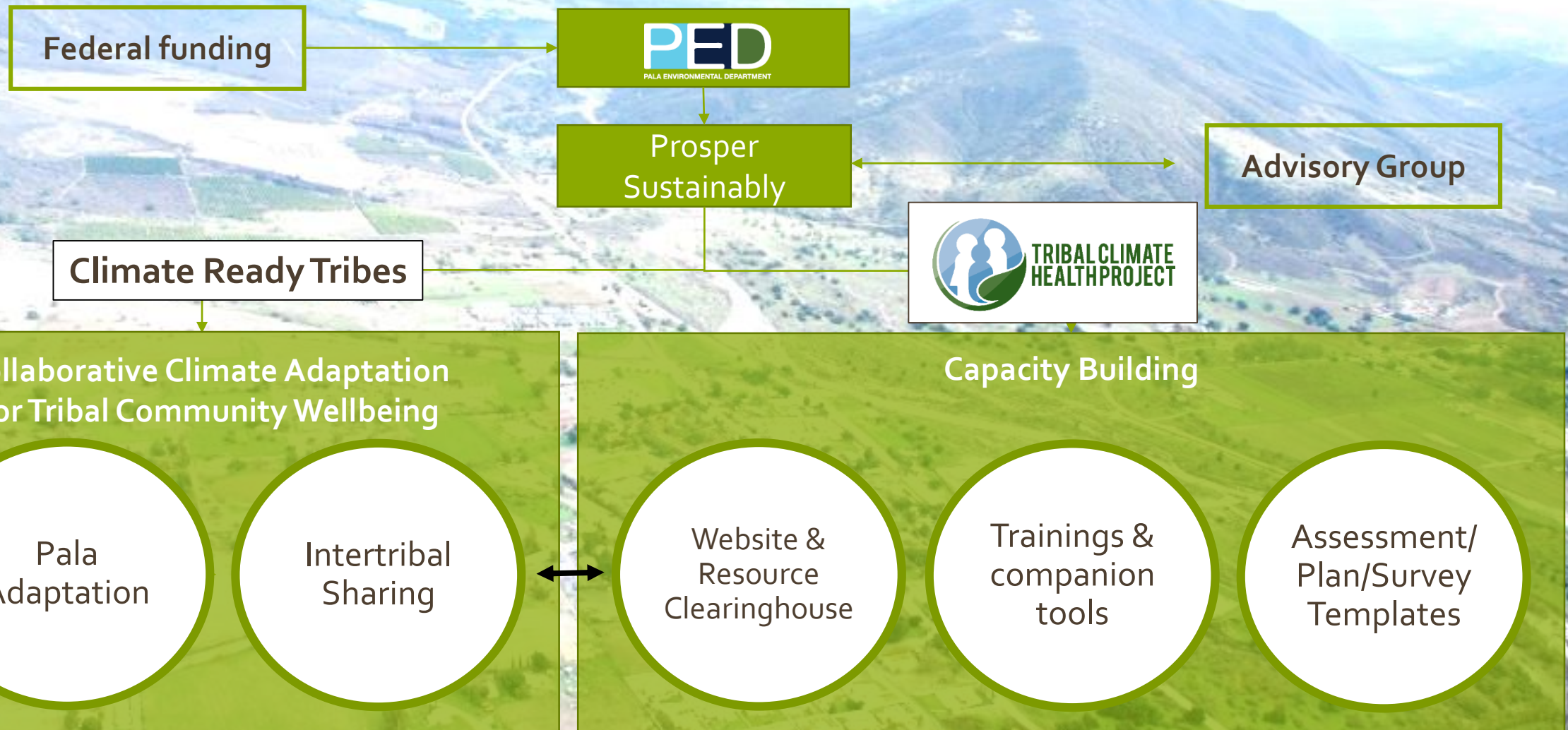
Dr. Shasta Gaughen
Pala Band of Mission Indians



Angie Hacker
Prosper Sustainably

Pala Band of Mission Indians (Northern San Diego, CA)

National collaboration and leadership on climate and health adaptation



Participants

Survey results

- 110+ people registered, representing tribes and tribe-serving organizations
- 77% on quiz questions
- 3.6/5 on current level of knowledge on **climate change**
- 3.2/5 on current level of knowledge on the **health impacts of climate change**
- 2.3/5 current level of knowledge on **how to assess your community's vulnerability to climate change and health impacts**
- 2.3/5 current level of knowledge on **how to complete an adaptation plan to build resilience against vulnerabilities**

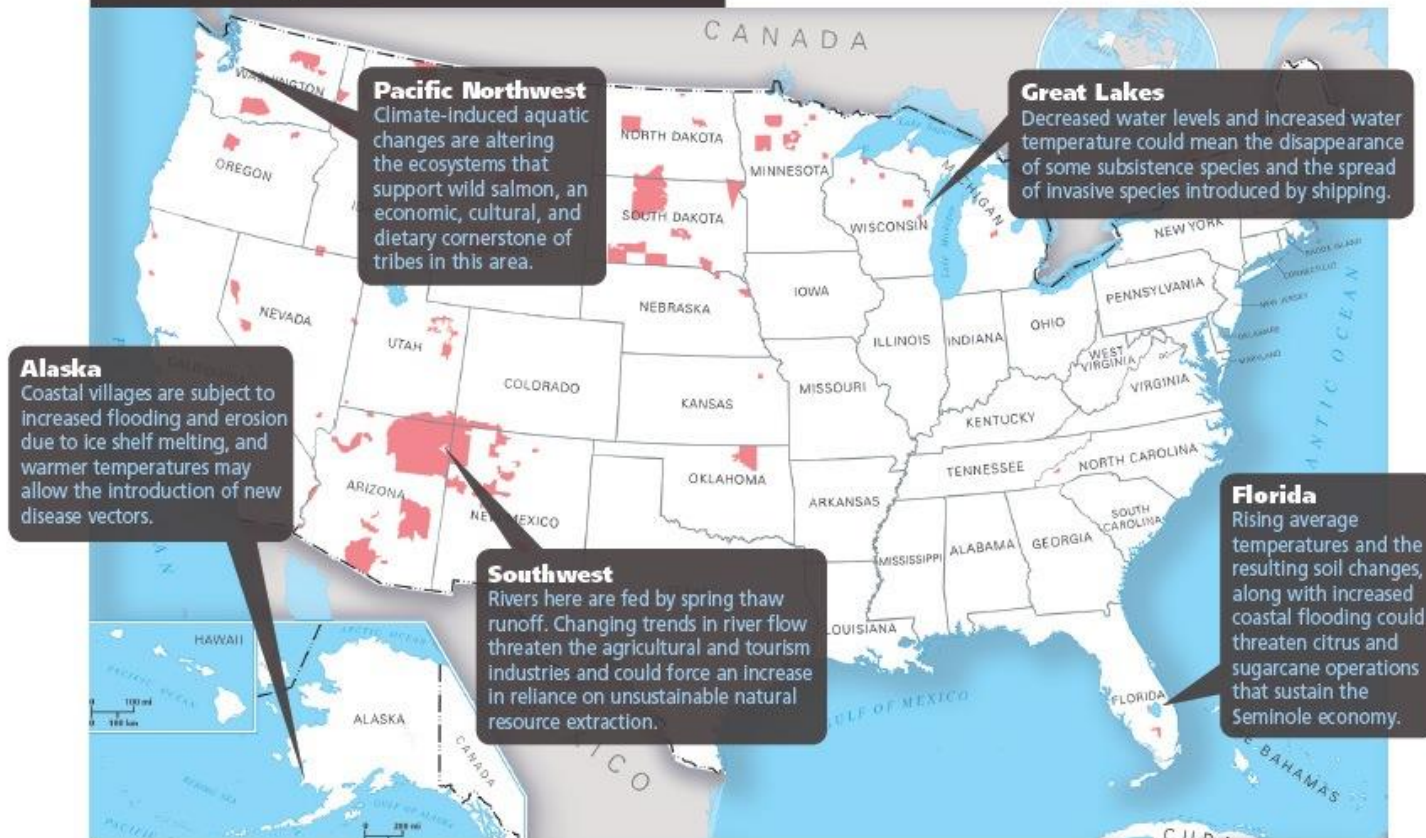
Please Introduce Yourself

When you hear your name, please share:

- Title
- Organization
- State

Climate changes wellbeing differently in different places

Climate Change Affects Tribes Nationwide



Tribal lands are indicated in pink. Sources: map—www.nationalatlas.gov; climate change effect predictions—Hanna JM. 2007. Native communities and climate change: protecting tribal resources as part of national climate policy. Boulder, CO: Natural Resources Law Center / NWF. 2007. Overview of recent research: effects of global warming on the Great Lakes [fact sheet]. Ann Arbor, MI: National Wildlife Federation.

Tribal examples:

- ***Pacific Northwest and Great Lakes tribes***: fish, food, and forests
- ***Alaska coastal tribes***: thawing, erosion and hunting
- ***Navajo***: heat and water insecurity
- ***Mojave***: shrinking river (spirituality)
- ***Seminole Tribe of Florida***: hurricanes and sea-level rise
- ***Lakota (South Dakota)***: Bomb cyclone and flooding
- ***Pala***: Heat, drought, floods, fire



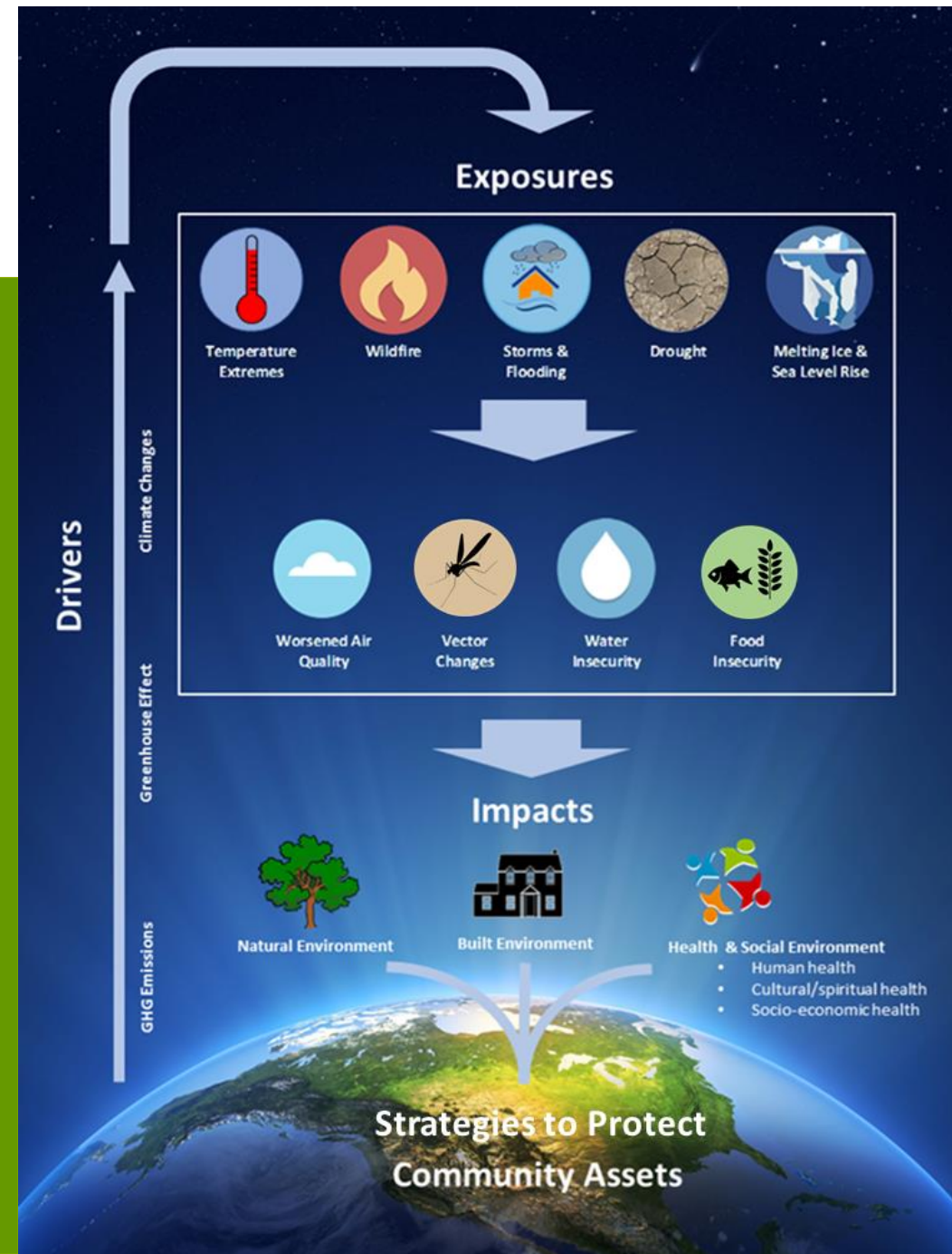
Learning Objectives

As a result of the training, trainees are expected to:

- Gain a basic understanding of climate change science and projected impacts
- Be able to clearly communicate the linkages between human health and climate change to tribal leaders and other community members
- Have working knowledge of climate change health impacts and the strategies being used to address them
- Possess knowledge, skills, and tools needed to:
 - Develop a climate change vulnerability assessment in tribal communities with a specific focus on health
 - Develop a climate change adaptation plan
 - Implement a climate change adaptation plan
- Understand where to go for additional relevant information, tools and resources

Training Schedule

- 2/21: Intro to Changing Exposures and Impacts, Temperature Extremes, Wildfire (Module 2)
SoCal Workshop
- 3/17: Drought, Melting Ice & Sea Level Rise, Storms & Flooding (Module 2)
- 4/21: Vulnerability Assessments Part 1 (Module 3)
SoCal Workshop
- 5/19: Vulnerability Assessments Part 2 (Module 3)
- 6/16: Adaptation Plans Part 1 (Module 4) - Guest speaker
SoCal Workshop
- 7/21: Adaptation Plans Part 2 (Module 4) – Guest speaker
- 8/18: Implementation/Evaluation, Closing (Module 5)
SoCal Workshop



Regional Cohorts

Alaska Cohort – 5 members

Midwest Cohort – 9 members

Northwest Cohort – 13 members

SoCal Cohort – 15 members

So. Great Plains – 4 members

Cohort participants receive ...

- Inclusion in special listserv for cohort for sharing information and peer learning
- 2 hours of remote, group technical assistance (SoCal receives 4 in-person workshops)

Training Information

- **Before starting training**

- Take Pre-assessment
- Complete Gotomeeting webinar registration and add trainings to calendar
- Download Training Companion Form

- **Before each webinar**

- Complete suggested actions and reading

- **During each webinar**

- Make sure you're muted when not speaking
- Share your experiences and knowledge with others
- Participate in activities and group discussions
- Ask questions

- **After each module**

- Complete section of Training Companion Form
- Review resources

- **After completing training**

- Take Post-assessment
- Join Tribal Climate Health Ongoing Learning Community

- **Anytime**

- Contact Angie or Shasta with questions
- Connect with other participants through cohort listserv



Climate Change and Health 101



What is Climate Change?

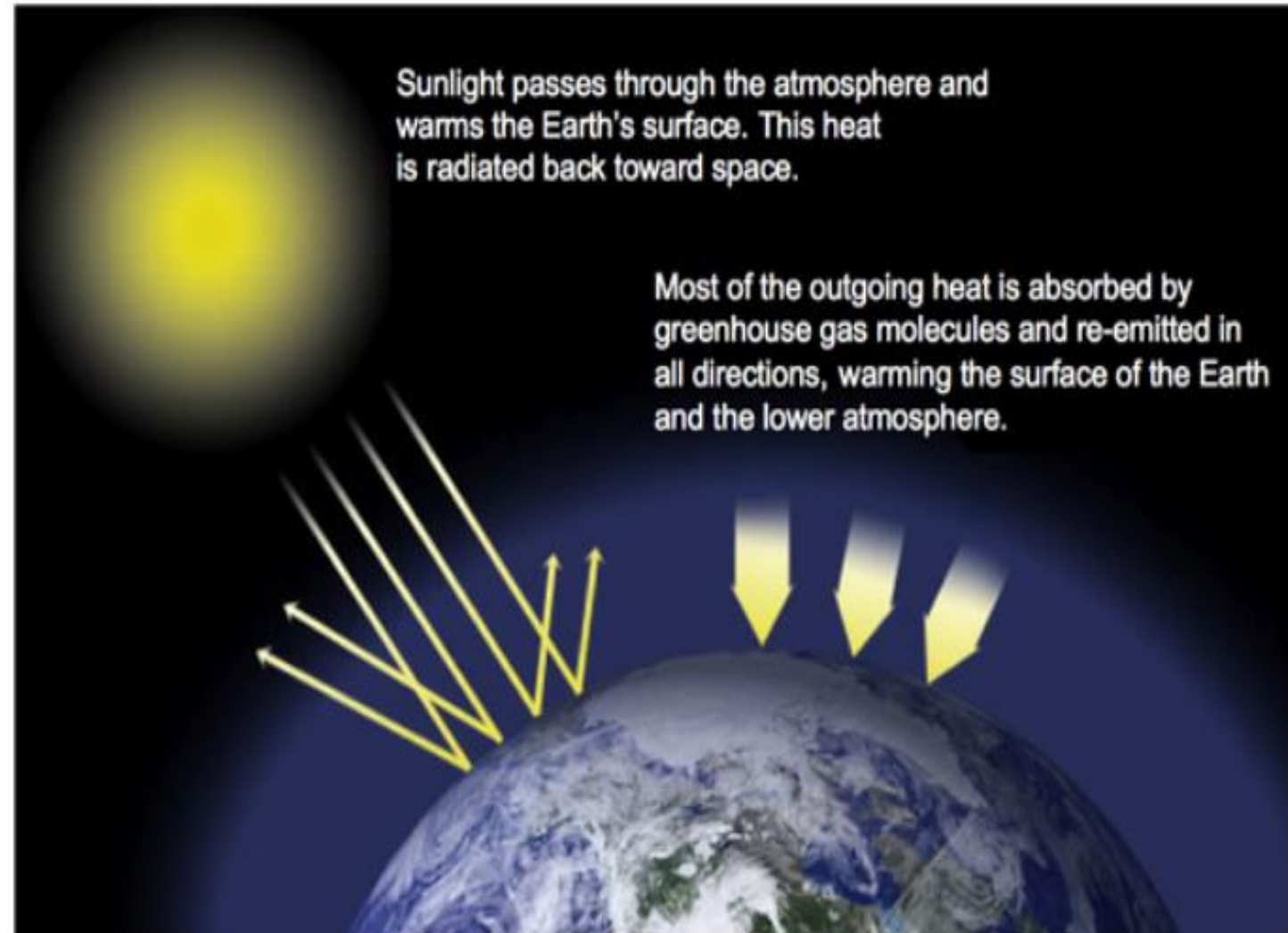
Climate change refers to long -term changes in usual or expected weather patterns driven by elevated greenhouse gases

- Life on Earth depends on, is shaped by, and affects climate
- Earth's atmosphere is extremely thin
 - Only 60 miles thick (Earth's diameter is 8,000 miles), most within 10 miles of surface
- It is composed primarily of nitrogen and oxygen.
 - Only .04% is CO₂ and far less is methane and other GHGs.

A blanket around the Earth

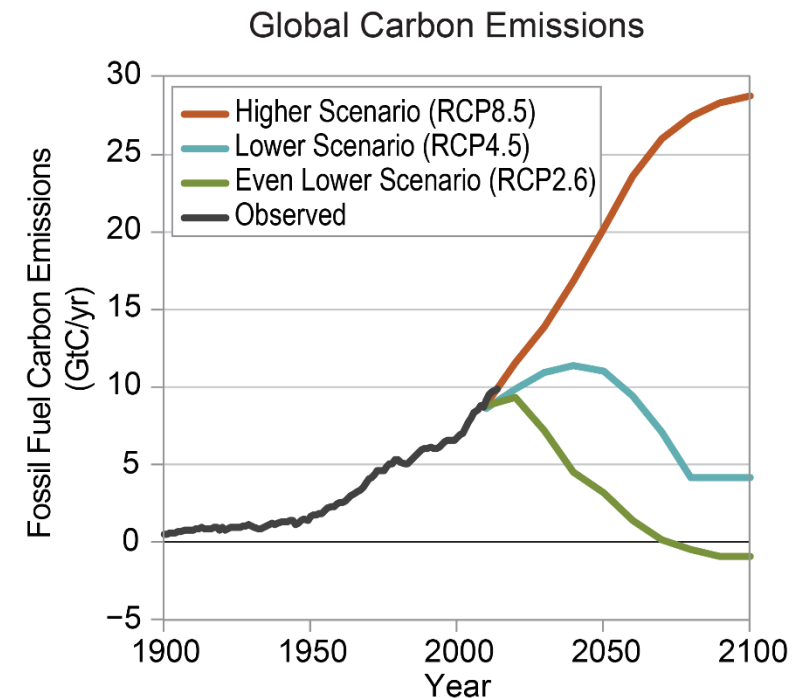
What is Climate Change?

In the right balance, these important greenhouse gases naturally trap heat (like a blanket) at a level that sustains life on Earth (**Greenhouse Effect**).



What is Climate Change?

- In the 10,000 years before the industrial Revolution in 1751, carbon dioxide levels in the air rose by less than 10 percent.
- Atmospheric CO₂ concentrations have increased more than 40% since pre-industrial times from 280 ppm to over 400ppm, higher than it has been in 800,000 years.
- There are natural causes for some climate fluctuations (e.g. solar radiation, volcanic activity), but none explain the rapid changes we are experiencing
- Human activities release 30 billion tons of CO₂ into the atmosphere every year (e.g. fossil fuel combustion), which accumulates, especially as we continue to deforest



"Treat the earth well: it was not given to you by your parents, it was loaned to you by your children. We do not inherit the Earth from our Ancestors, we borrow it from our Children."

– Native American Proverb

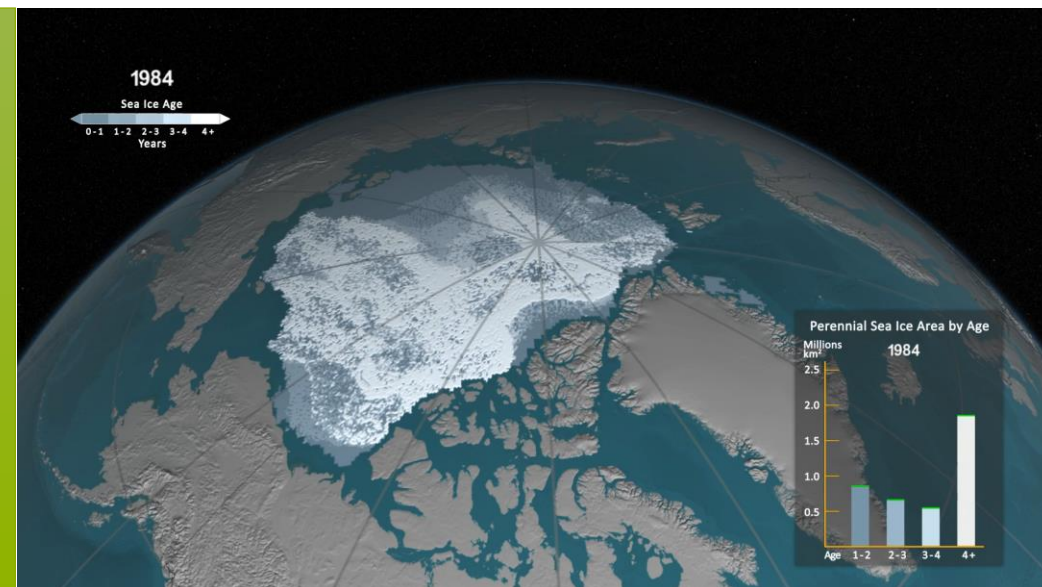
What is Climate Change?

Evidence found in traditional knowledges, indigenous science and western climate science

NASA: evidence of a changing climate includes

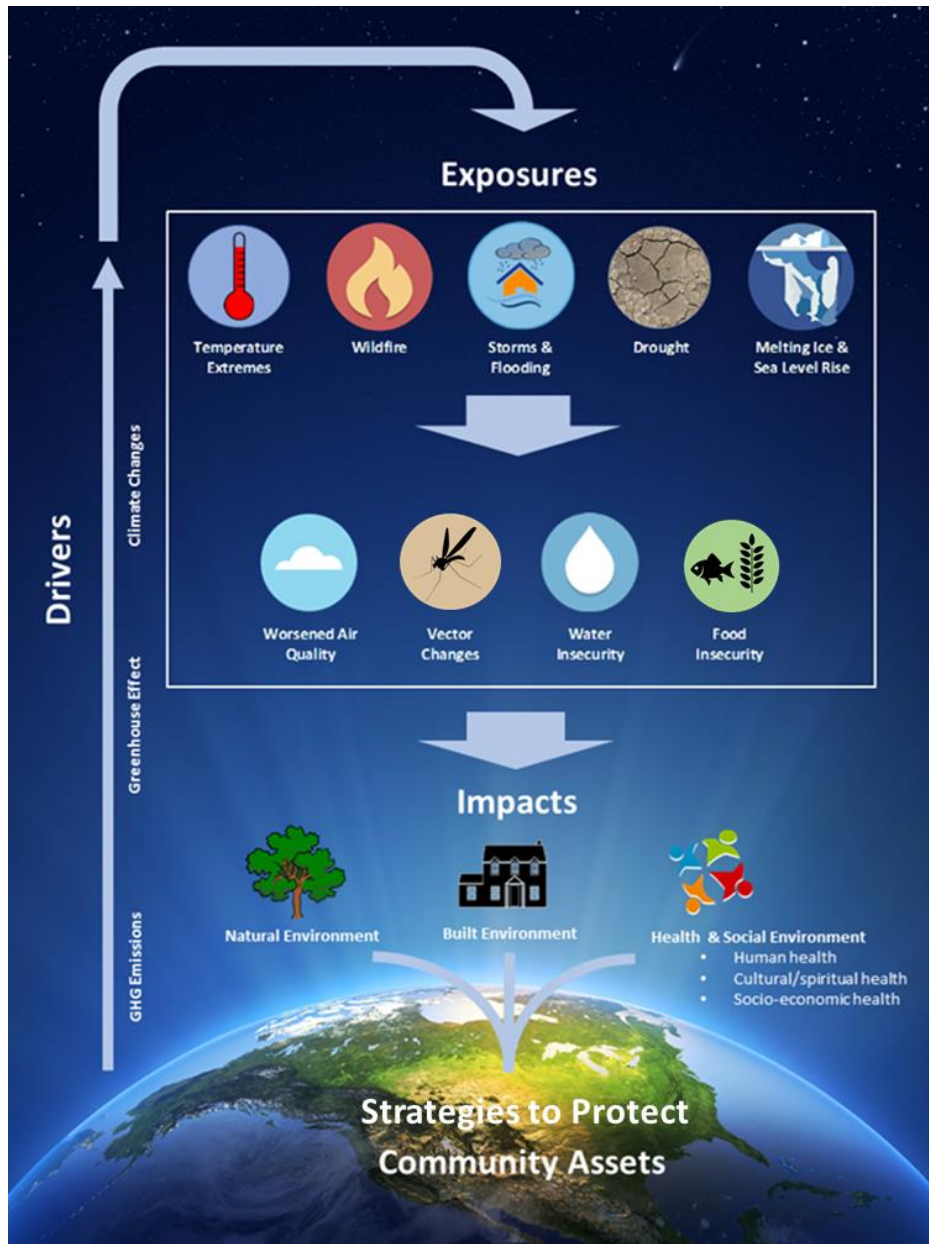
- global average temperature rise (July was historical record)
- 1 degree (C) since pre-industrial times, 2-3 higher in the Arctic
- warming oceans
- rising sea levels
- shrinking ice sheet
- declining arctic sea ice
- glacial retreat
- extreme events
- ocean acidification
- decreased snow cover

See
[USGCRP Indicators Catalogue](#)



“Global annually averaged surface air temperature has increased by about 1.8°F (1.0°C) over the last 115 years (1901–2016). This period is now the warmest in the history of modern civilization. The last few years have also seen record-breaking, climate-related weather extremes, and the last three years have been the warmest years on record for the globe. These trends are expected to continue over climate timescales.”

- *Climate Science Special Report (CSSR) - Volume 1 of the Fourth National Climate Assessment*



Cascading Effects of Climate Change

Framework guides this training

What Climate Change Means for Tribes & Indigenous Peoples

Tribes are both uniquely and disproportionately vulnerable and uniquely resilient

“Climate change threatens Indigenous peoples’ livelihoods and economies, including agriculture, hunting and gathering, fishing, forestry, energy, recreation, and tourism enterprises. Indigenous peoples’ economies rely on, but face institutional barriers to, their self-determined management of water, land, other natural resources, and infrastructure that will be impacted increasingly by changes in climate.”

Key Finding, Fourth National Climate Assessment

“In our every deliberation, we must consider the impact of our decisions on the next seven generations.”

Iroquois Maxim (1700-1800)



DESPITE THIS TREMENDOUS RESPECT FOR THE ENVIRONMENT, TRIBES NOW FIND THIS BALANCE AND HARMONY IS SLIPPING AWAY DUE TO CLIMATE CHANGE.

What Climate Change Means for Tribes & Indigenous Peoples

Federal laws, treaty rights, sovereignty and self-determination

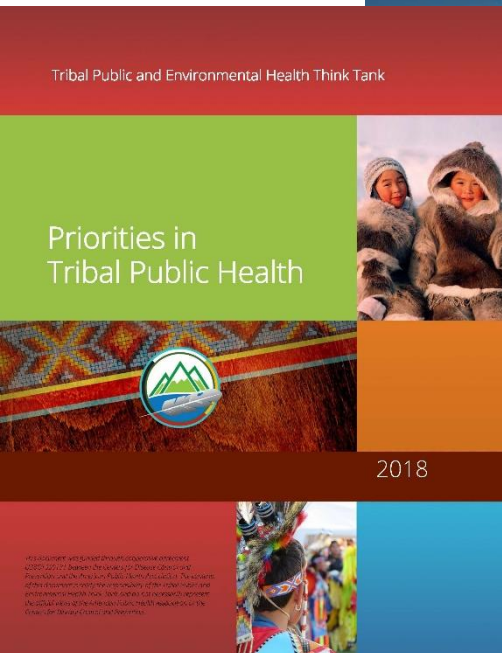
- Displacement, relocation, resettlement
- Institutional barriers to adaptation
- Engagement, consultation, and consent



What Climate Change Means for Tribes & Indigenous Peoples

Unique climate-driven health challenges

- Each tribal community is unique
- Climate change exacerbates disproportionate health outcomes
- Water and food insecurity
- Loss of ecological health can mean loss of livelihoods
- Relocating may mean loss of culture, community, and rights
- Arctic warming
- Underfunded public health services

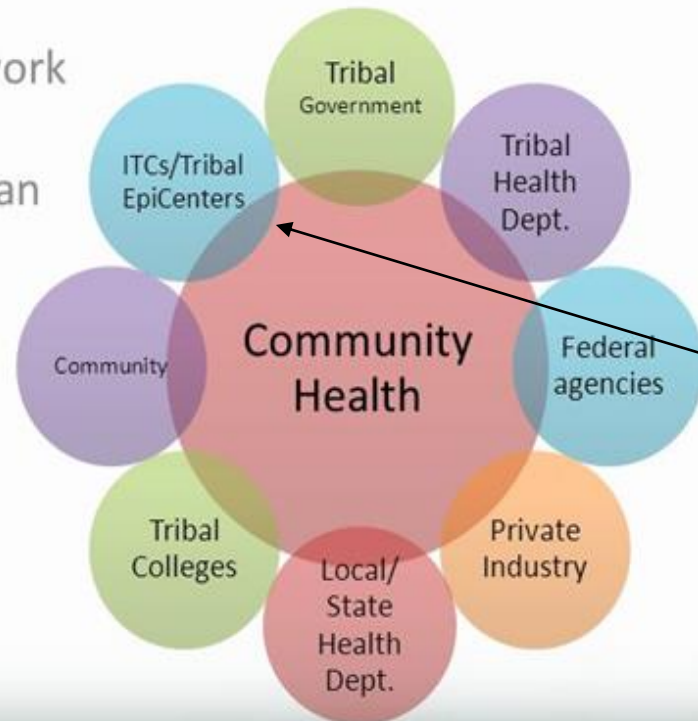


Tribal Health Systems and Professionals

Federal gov has a legal role as “guardian” to provide federally funded health care via Indian Health Service

Tribal Public Health Systems

Multiple stakeholders who work in partnership to assure conditions in which people can be healthy.





California Tribal Epidemiology Center Overview

Vanesscia Cresci, MSW, MPA
Acting Epidemiology Manager, California Tribal
Epidemiology Center
Director, Research & Public Health Department
California Rural Indian Health Board, Inc.





Tribal Epidemiology Centers (TEC)

- Established via Indian Health Care improvement Act (IHCIA)
- Four TECs were started in 1996, now 12 TECs
- TECs function independently, but also as part of a national group

URBAN INDIAN HEALTH INSTITUTE

NORTHWEST

ROCKY MOUNTAIN

NORTHERN PLAINS

GREAT LAKES

CALIFORNIA

INTER-TRIBAL COUNCIL
OF ARIZONA, INC.

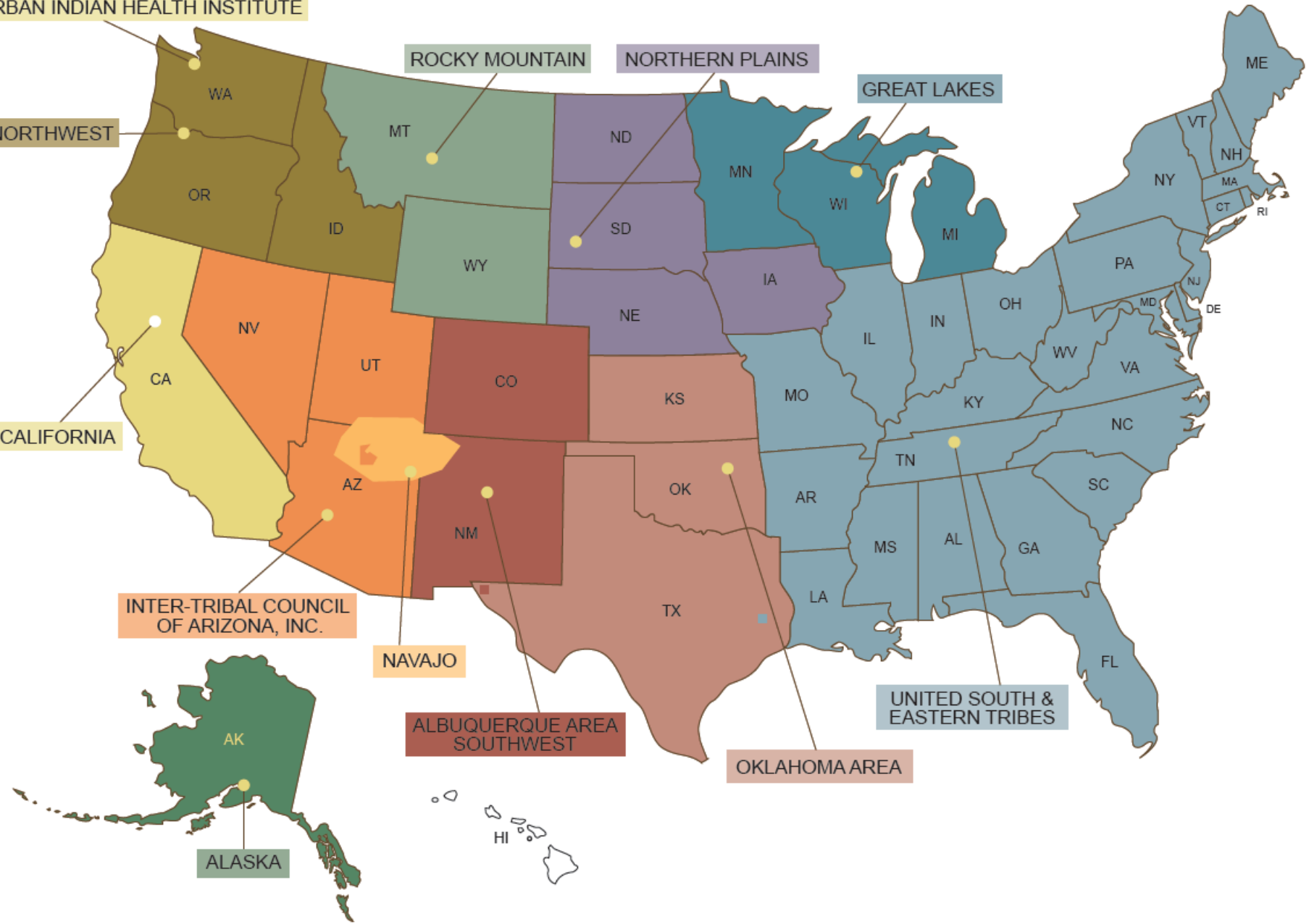
NAVAJO

ALBUQUERQUE AREA
SOUTHWEST

OKLAHOMA AREA

UNITED SOUTH &
EASTERN TRIBES

ALASKA

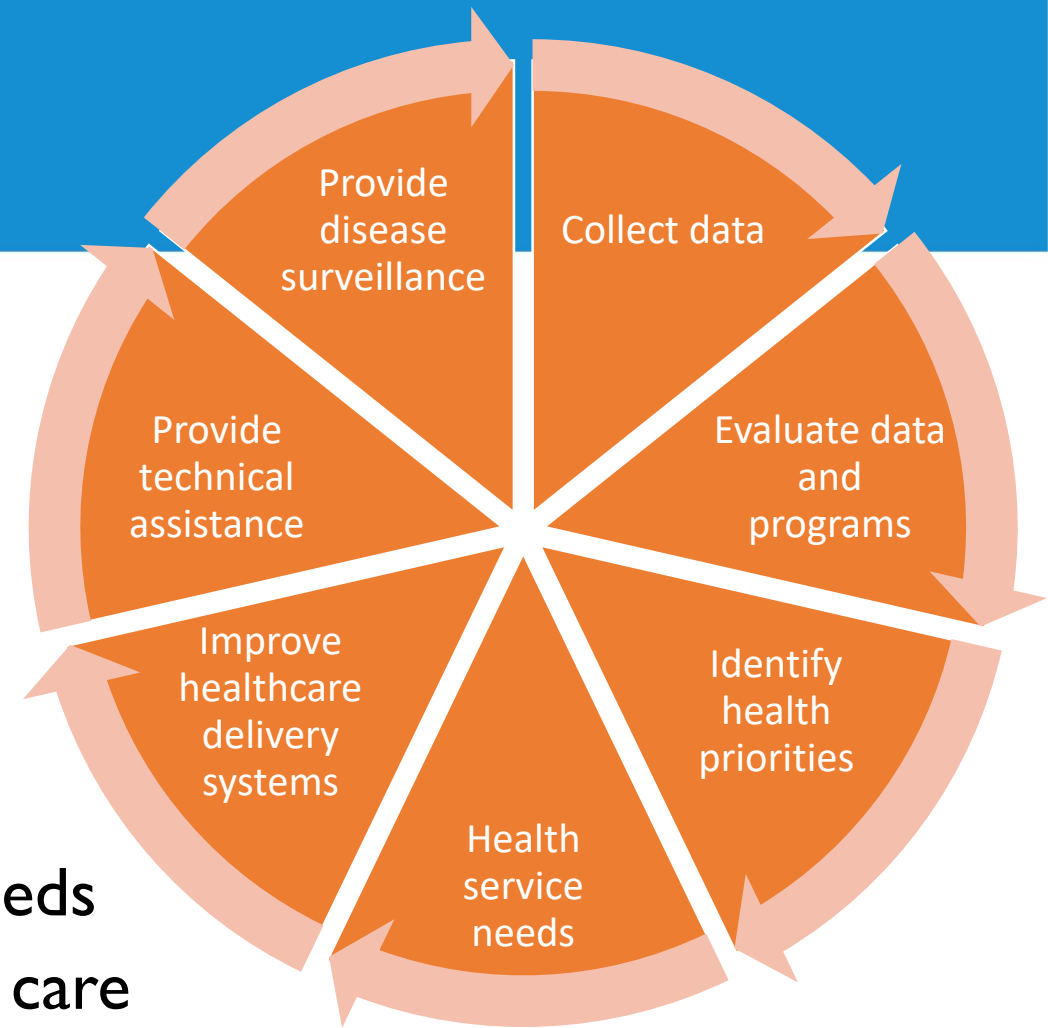


TECs as Public Health Authorities

- Established through permanent reauthorization of the Indian Health Care Improvement Act (IHCIA) as part of the Patient Protection and Affordable Care Act (2010)
 - The Secretary “shall grant to each epidemiology center... access to use of the data, data sets, monitoring systems, delivery systems, and other protected health information in the possession of the Secretary.”*
 - 25 U.S.C.A. § 1621m(c)
- Health and Human Services (HHS) directive gives TECs access to HHS data systems and protected health information
- Centers for Disease Control and Prevention must provide TECs technical assistance
- Each Indian Health Service (IHS) Area must have TEC access

7 Core Functions

- Collect data
- Evaluate data and programs
- Identify health priorities with Tribes
- Make recommendations for health service needs
- Make recommendations for improving health care delivery systems
- Provide epidemiologic technical assistance to Tribes and Tribal organizations
- Provide disease surveillance to Tribes



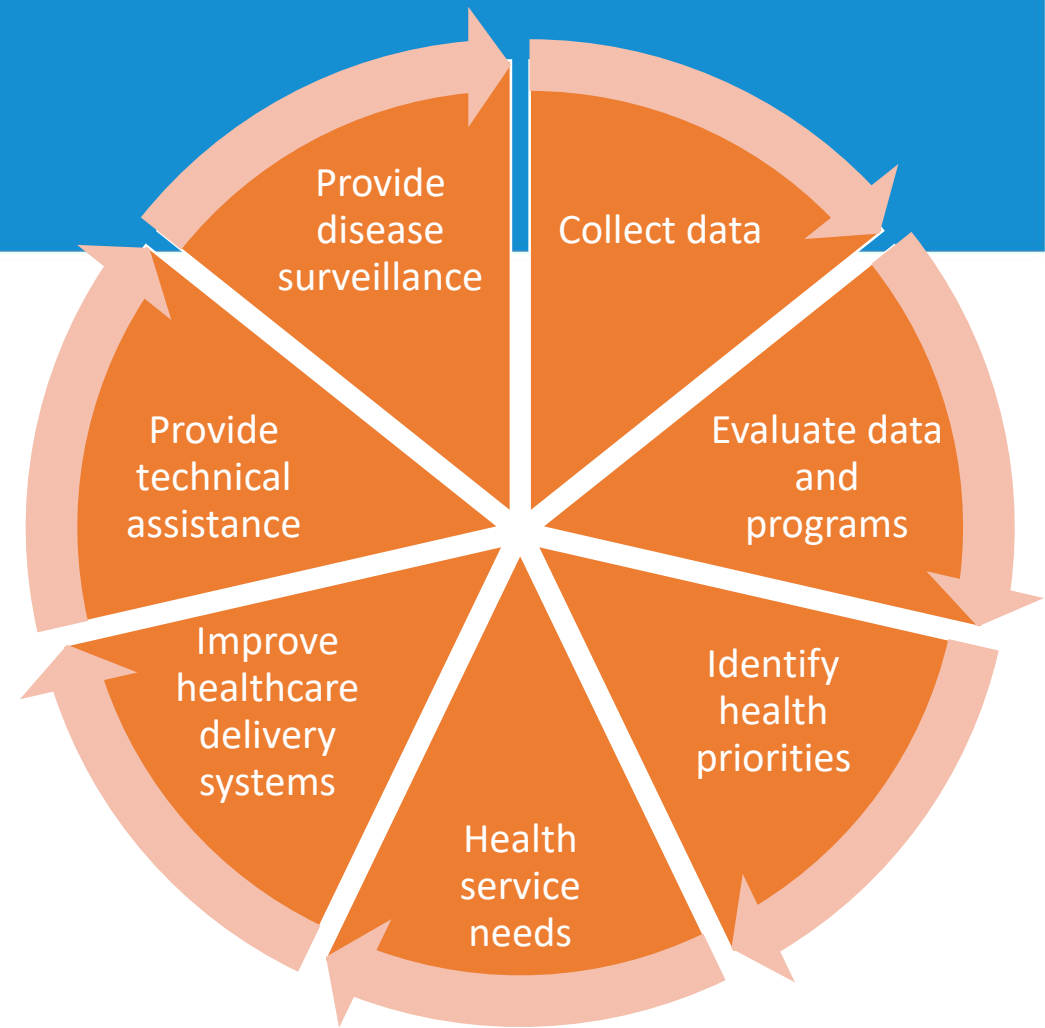


What does climate change look like?

- Droughts are longer and more extreme
 - Warmer ocean water is causing more severe tropical storms
 - Sea levels are rising
 - Wildfires are more frequent
 - More vector-borne diseases
 - Increase in floods
 - These all affect salmon population, acorn production, invasive species in trees and plants used for basketmaking
- “Fire affects the plants, which affect the water, which affects the fish, which affect terrestrial plants and animals, all of which the Karuk rely on for cultural perpetuity.”*
- Karuk Tribe Climate Change project website*

How can CTEC help?

- Collect data
 - Surveillance
- Evaluate data and programs
- Identify health priorities with Tribes
 - Vulnerability assessments
- Make recommendations for health service needs
 - Based on vulnerability assessments
- Make recommendations for improving health care delivery systems
- Provide epidemiologic technical assistance to Tribes and Tribal organizations
- Provide disease surveillance to Tribes
 - Vector-borne/zoonotic diseases



Potential Environmental Health Data Sources

- Provide health indicators associated with climate change (national, state, county levels)
- Vector-borne/zoonotic diseases
 - Mosquito surveillance (West Nile Virus (WNV)/Zika)
 - Hanta Virus
 - Tick surveillance (Lyme disease, Rocky Mountain spotted fever, tularemia)
- Asthma rates
 - ED visits/hospitalizations
 - Related deaths
- Heat Related Illnesses
 - Heat stress hospitalizations
 - ED visits
 - Heat exhaustion
 - Heat stroke





How To Request Technical Assistance

- <https://crihb.org/technical-assistance-request-form/>
- Have a Data Sharing Agreement in place with CRIHB

California Tribal Epidemiology Center



Questions?

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Epidemiology Center
Director, Research & Public Health Department
California Rural Indian Health Board, Inc.

vcresci@crihb.org

(916) 929-9761 x1500

<http://www.crihb.org/ctec>



Wrapping Up

Thank you for being part of our training community!

Please take a moment to complete **Module 1** of your **Workshop Companion Form**.

Suggested action step (complete before next webinar)

- Identify other members of your team or region that may benefit from taking the training
- Connect with your local Tribal Epidemiology Center
- Review work being done by tribes in your region on the BIA's U.S. Indigenous Peoples Resilience Actions [Map](#)

Suggested reading (complete before next webinar)

- [Fourth National Climate Assessment: Regional Reports](#)

Next webinar:

February 21, 2020 (10AM PST / 1PM EST)

Intro to Changing Exposures and Impacts; Temperature Extremes; Wildfire (Module 2)

Questions?

A scenic landscape featuring a range of mountains in the background under a bright blue sky filled with fluffy white clouds. The foreground shows some greenery and a clear horizon line.

Don't forget! Take 5 minutes to complete Section 1 of "Your Work, Your Community" Form

Climate Change and Health 101 – Key Resources

Guidance

- USGCRP – [Impacts of Climate Change on Human Health in the United States](#)
- USGCRP - [Fourth National Climate Assessment](#)
 - [Climate Science Special Report](#)
 - [Human Health Chapter](#)
 - [Tribes And Indigenous Peoples Chapter](#)
- USGCRP - [Third National Climate Assessment](#)
 - [Indigenous Peoples, Lands, and Resources](#)
 - [Human Health](#)
- USDA - [Climate Change and Indigenous Peoples: A Synthesis of Current Impacts and Experiences](#)
- NASA – [Global Climate Change](#)
- NOAA – [NCA Teaching Resources: Regional Support pages](#)
- EPA – [Climate Change Impacts by Region](#)
- CDC – [Climate and Health Effects](#)
- IPCC – Fifth Assessment - [Chapter 11: Human Health: Impacts, Adaptation, and Co-benefits](#)
- CDC - [Assessing Health Vulnerability to Climate Change A Guide for Health Departments](#)
- Indian Health Service – [Environmental Health](#)
- Rising Voices – [Considering Traditional Knowledge In Climate Change Initiatives](#)
- FEMA: [Tribal Mitigation Planning Guide](#)
- TCHP: [Tribal Climate Health Project](#)
- King County Public Health Department: [Blueprint for Addressing Climate Change and Health Reports](#)
- California Department of Public Health: [Climate Change and Health Reports](#)
- Oregon Health Authority: [Climate and Health Resilience Plan](#)
- ANTHC - [Climate Change in Kiana, Alaska: Strategies for Community Health](#)
- Michigan Dept. of Health and Human Services: [Michigan Climate and Health Adaptation Program: Strategic Plan Update: 2016 - 2021](#)

Tools and Templates

- TCHP – [Resources Clearinghouse](#)
- [Tribal Community Health Assessment for Public Health Accreditation – A Practical Guide and Toolkit \(Arizona\)](#)

Examples

Health-led Assessments

- San Diego: [2016 Community Health Assessment](#)