

TRIBAL HEALTH & CLIMATE CHANGE

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DEPARTMENT
NATIONAL INDIAN HEALTH BOARD

National Indian
Health Board



INTRODUCTION

ABOUT NIHB

National Indian
Health Board



Mission Statement

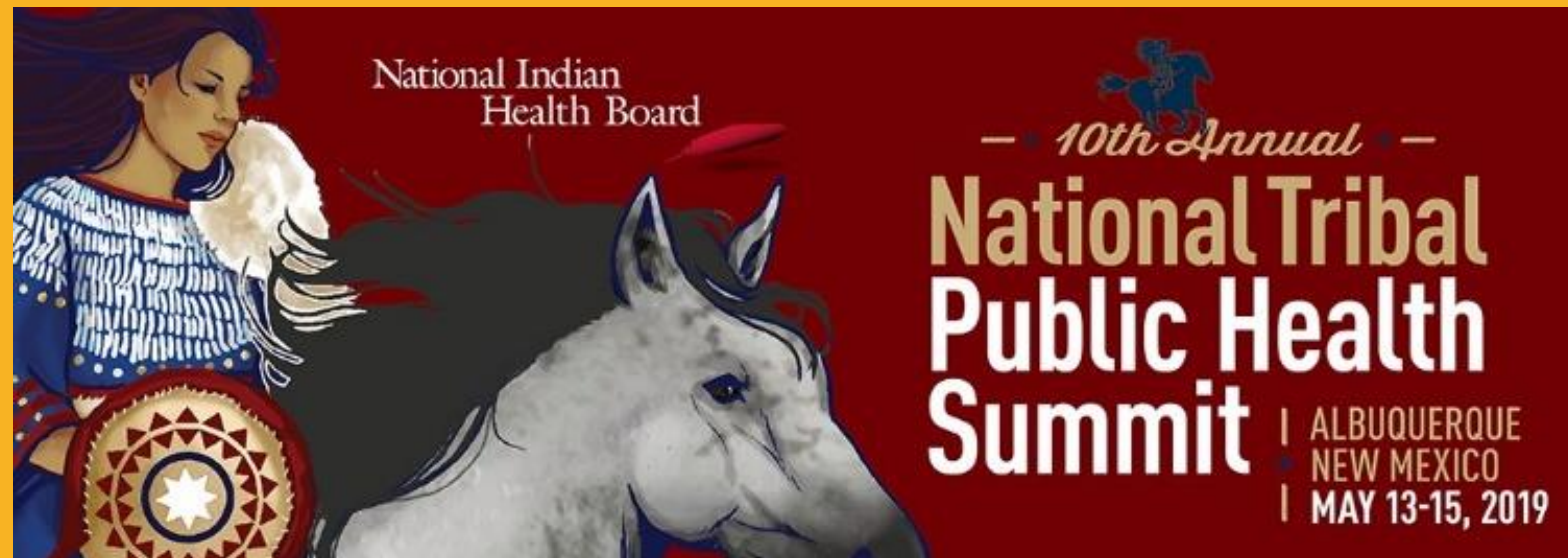
Established by the Tribes to advocate as the united voice of federally recognized American Indian and Alaska Native Tribes, NIHB seeks to reinforce Tribal sovereignty, strengthen Tribal health systems, secure resources, and build capacity to achieve the highest level of health and well-being for our People.

HOUSEKEEPING ITEMS

- **RECORDED AND POSTED ONLINE**
- **KEEP PHONES MUTED PLEASE**
- **QUESTIONS AT DEDICATED TIMES**
- **SURVEY**

10TH ANNUAL TRIBAL PUBLIC HEALTH SUMMIT

- **MAY 13-15 IN ALBUQUERQUE**



CLIMATE READY TRIBES

- **HOST ENVIRONMENTAL HEALTH AND CLIMATE CHANGE TRACK AT SUMMIT (& SCHOLARSHIPS)**



CLIMATE READY TRIBES

- **SHARE INFORMATION AND RESOURCES NATIONALLY**

National Indian Health Board



Climate Change & Tribes: Exploring Current Impacts and Future Predictions for America's First People

January 14, 2019

Imagine a world where one Arctic summer per decade is too warm to support the sea ice that helps maintain our global ecosystem and environment, directly impacting the people and animals of these far north communities. A world where coral reefs, once bustling with the rich diversity of sea life, have all but completely disappeared from the oceans. A world where mass global migration from tropical areas leads to a drastic

NIHB Resources

[Sign Up for Email Updates](#)

Articles

For Email Marketing you can trust.

- [Climate Change & Tribes: Exploring Current Impacts and Future Predictions for America's First People, 1/14/19](#)

Tribal Climate Champions Spotlights

- [Spotlight on Gila River Indian Community, 1/9/19](#)
- [Spotlight on Blackfeet Nation, 5/29/18](#)
- [Spotlight on Village of Wainwright, 1/10/18](#)
- [Spotlight on Swinomish Indian Tribal Community, 12/1/17](#)

Webinars

- **6/12/18**
Including *Indigenous* Health in Climate Change Assessments: Overview of Methods and Results from Swinomish
[Read Description](#) | [Watch Recording](#) | [View Slides](#)
- **1/25/18**
Climate Change and Health in the Arctic: Impacts on Alaska Native Communities and a Spotlight on Efforts to Improve Climate Health
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- **7/17/17**
Climate and Health in Indian Country
[View Slides](#)
- **4/20/17**
CDC Climate and Health 101
[View Slides](#)

Climate and Health in Indian Country Fact Sheet

[View Fact Sheet Here](#)

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CLIMATE READY TRIBES

- **LEARNING COMMUNITY**

- Nearly 700 members
- Webinars (like this one!) and an in-person event at Tribal Public Health Summit
- NIHB is seeking webinar presenters!

Next webinar: Thursday, April 18 at 3:00 pm ET
“Enhancing Relationships between Tribal and State Governments”

CLIMATE READY TRIBES

• FUNDING & SUPPORT



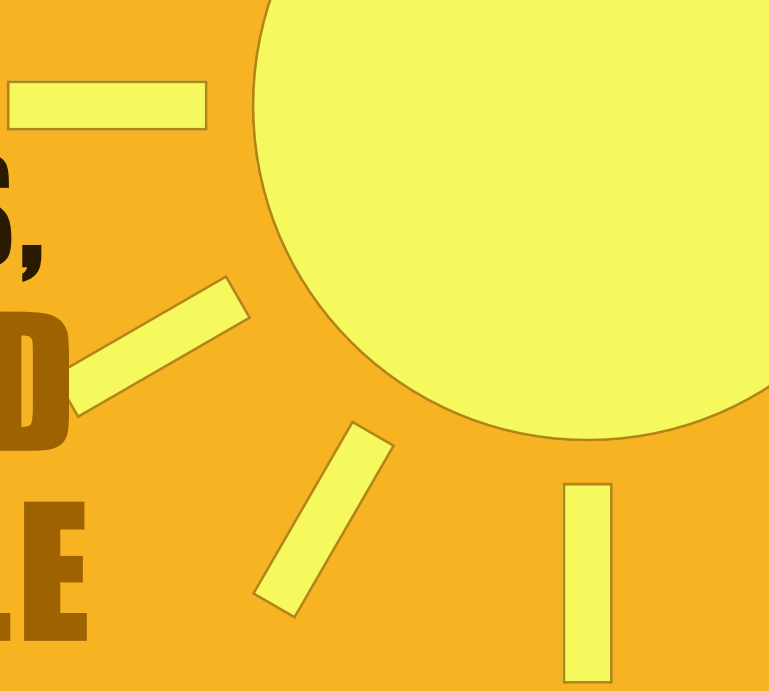
Awardees Include

First cohort

Blackfeet Nation
Swinomish Indian Tribal Community
Village of Wainwright

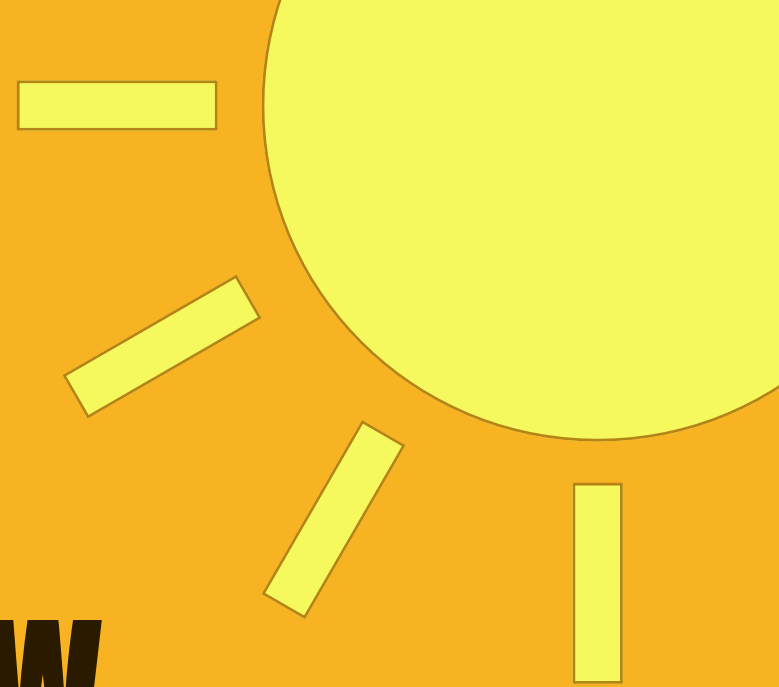
New cohort

Kaw Nation (mini-award)
Lummi Nation
Pala Band of Mission Indians
Sitka Tribe of Alaska

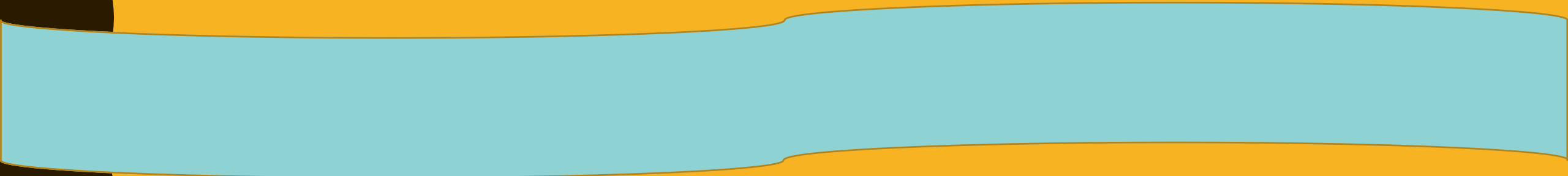


**FOR THOUSANDS OF YEARS,
AMERICAN INDIAN AND
ALASKA NATIVE PEOPLE
LIVED IN HARMONY WITH
THE LAND, TAKING WHAT THEY
NEEDED FOR PHYSICAL, CULTURAL,
AND SPIRITUAL PURPOSES.**

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

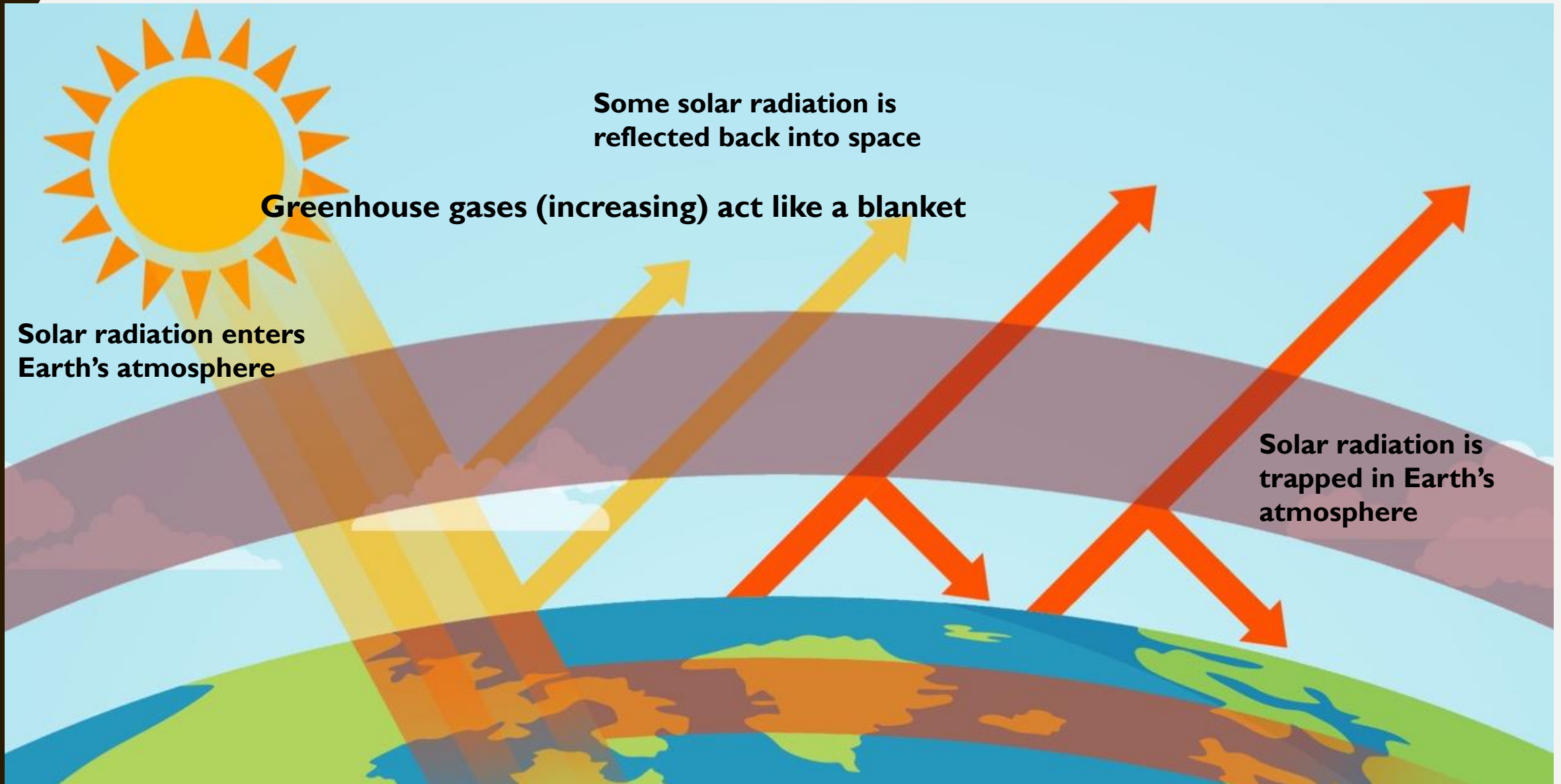


**AND TRIBES ARE OFTEN
THE FIRST AND MOST
SEVERELY AFFECTED BY
ENVIRONMENTAL HARMS.**



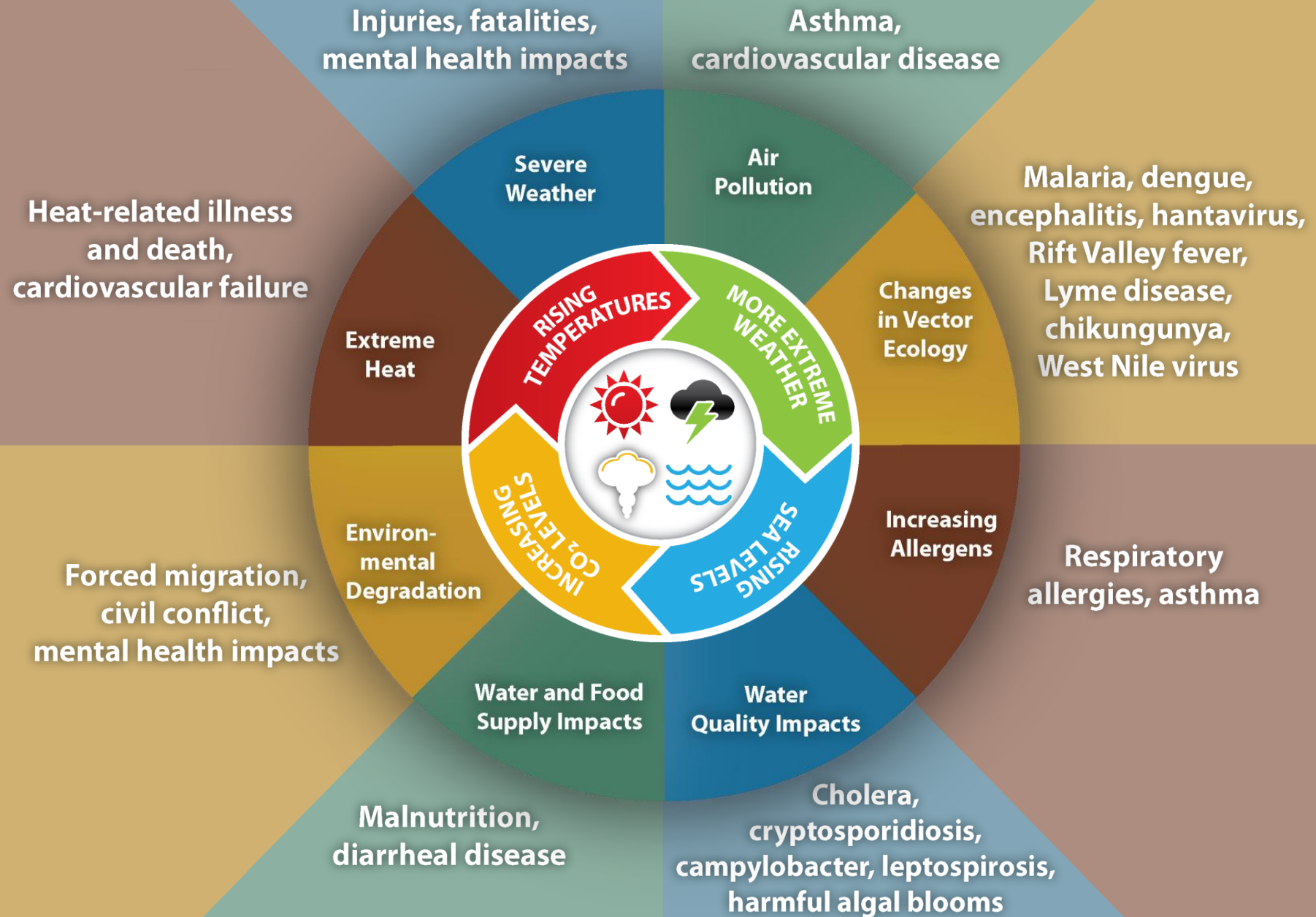
**WHAT IS CLIMATE
CHANGE?**

WHAT IS CLIMATE CHANGE?



**HOW DOES
CLIMATE CHANGE
AFFECT HEALTH?**

Impact of Climate Change on Human Health



How is Climate Change Affecting Health?

Affecting Health Directly

Extreme Heat
Air Pollution
Extreme Weather

Spreading Disease

Diseases Spread by Insects,
Ticks, and Rodents
Contaminated Water
Contaminated Food

Destroying & Disrupting Food Supplies

Hunger and Malnutrition

Disrupting Well-Being

Mental Health Problems



AFFECTING HEALTH DIRECTLY

EXTREME HEAT

Higher heat, increased humidity, longer and more frequent heat waves can lead to:

dehydration and heatstroke

More Vulnerable: Outdoor workers, student athletes, people in cities, people without air conditioning, people with chronic diseases, pregnant women, elders, and young children



AFFECTING HEALTH DIRECTLY

AIR POLLUTION

Increased wildfires, smog, pollen, and mold can lead to:

asthma and allergy attacks

More Vulnerable: People with heart and respiratory conditions such as heart disease, asthma, or chronic lung disease



AFFECTING HEALTH DIRECTLY

EXTREME WEATHER

Increased frequency and severity of heavy downpours, floods, droughts, and major storms can lead to:

injury, illness, displacement, and death

More Vulnerable: People who lack access to evacuation routes and people who can't use stairs when elevators are out of service, people in wheelchairs, elders, low-income people, and people with disabilities, particularly if they are unable to access elevators and evacuation routes



SPREADING DISEASE

INSECTS, TICKS, AND RODENTS

Higher temperatures, changes in rain patterns, and disrupted ecosystems help spread:



**diseases carried by
insects, ticks, and rodents**

More Vulnerable: People who spend more time outdoors in places where these insects and other disease-carriers live



SPREADING DISEASE

CONTAMINATED WATER

Higher water temperatures, heavier downpours, rising sea levels, and more flooding help spread:

gastrointestinal illness, diseases from toxins in swimming areas and drinking water

More Vulnerable: Children, elders, people with weakened immune systems, people in remote or low-income communities with inadequate water systems, and people in communities that are dependent on fish and shellfish






SPREADING DISEASE

CONTAMINATED FOOD

Increasing temperatures, humidity, and extreme weather events help spread:

illnesses from bacteria and toxins in food



More Vulnerable: Infants, young children, elders, the poor, agricultural workers, and people with weakened immune systems

DESTROYING AND DISRUPTING FOOD SUPPLIES

HUNGER AND UNDERNUTRITION

Increasing temperatures, humidity, and extreme weather events can lead to:

undernutrition, vitamin deficiencies

More Vulnerable: Infants, young children, pregnant women, elders, and poor communities



DISRUPTING WELL-BEING

MENTAL HEALTH PROBLEMS

Increased frequency and severity of extreme weather events can lead to:

**stress, depression, anxiety, PTSD,
and suicidal thoughts**

More Vulnerable: Children, elders, pregnant and postpartum women, people with mental illnesses, low-income people, homeless people, first responders, and people who rely on the environment for their livelihood



**TRIBES ARE
MORE
VULNERABLE**

**TRIBES ARE OFTEN THE FIRST AND MOST
SEVERELY AFFECTED**

TRIBES FACE EXISTING HEALTH DISPARITIES

- Higher rates of many diseases, including lower respiratory illness and diabetes
 - E.g. >50% of adults in some AI/AN communities are diagnosed with diabetes
- These diseases can make Tribes more vulnerable to other health effects
- Indian Health care system is underfunded – estimated less than 50% of need

Person has
asthma



Person is more
vulnerable
when air quality
decreases due
to climate
change



Person is at
greater risk for
asthma attacks
or other
illnesses



Person has
trouble
accessing timely
care due to
systemic
disparities



Already over-
burdened
system faces
greater
challenges

Note: This flow chart and the flow charts on next slides show examples of how these risk factors make Tribal communities or Tribal members more vulnerable to the effects of climate change.

TRIBES FACE OTHER, GENERAL DISPARITIES

- Many Tribal communities face poverty and high jobless rates
 - Nearly $\frac{1}{4}$ of AI/AN families live below poverty line [1]
- Many Tribes are isolated in remote rural areas
- These factors increase vulnerability to harm and reducing options for alternate solutions



TRIBES FACE FOOD CHALLENGES

- Tribes may live in isolated areas with few grocery options available
 - Foods may have limited selection or be highly processed or expensive
- Traditional foods (such as gathered berries, hunted meat, or fished salmon or clams) may be the cheapest, healthiest options
 - Climate change nearly always harms traditional foods
- Traditional foods also have spiritual and cultural importance

Family has always eaten traditional foods



Climate change affects animal migration patterns and growing seasons



Traditional foods are not readily available and family is forced to buy food



Foods available at the grocery store are unhealthy and expensive



Family faces financial struggle, diabetes, and mental health challenges

Product of
ROMA
TOMATOES

great for sauce
salsa & more!



“HUNTING AND SHARING FOOD IS NOT JUST A WAY TO MEET YOUR BASIC NEEDS, BUT IS PART OF THE FABRIC OF SOCIAL LIFE,” EXPLAINS DR. KIRMAYER, DIRECTOR OF MCGILL UNIVERSITY’S SOCIAL AND TRANSCULTURAL PSYCHIATRY UNIT, QUOTED IN A 2017 NEW YORK TIMES ARTICLE. [2]

“YOU CAN FIND ANOTHER WAY TO GET YOUR CALORIES, BUT IN SO DOING, YOU MAY BE LOSING COMPANIONSHIP, SOLIDARITY AND YOUR SENSE OF SELF.”

TRIBES FACE WATER CHALLENGES

- Water is sacred – the lifeblood of healthy land and people and key for Tribes to follow traditional practices which benefit their physical, mental, and spiritual health
- Tribes already face water disparities due to poor infrastructure, underfunding, and challenges with Tribal maintenance [3]
- Warmer temperatures can decrease water levels, change precipitation patterns, and impact the species that are used by Tribes for food or other needs
- Climate change can cause draught, flooding, storm surges, and mold – especially difficult to manage in under-resourced and low-income Tribal communities



TRIBES LIVE CLOSER TO THE LAND

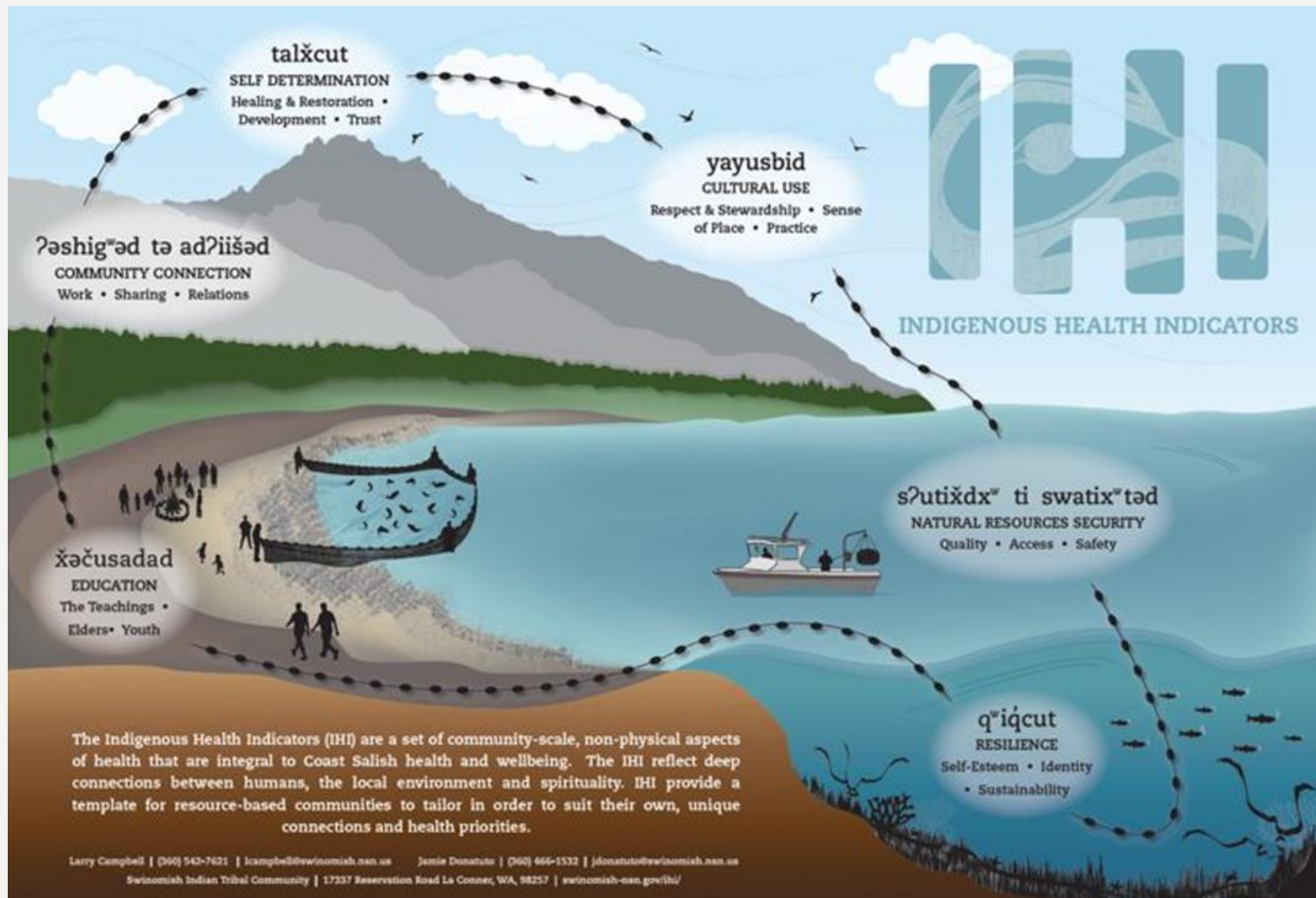
- Many Tribal members live closer to the land
 - May spend more time outdoors for work, subsistence activities, or cultural or spiritual reasons
 - May participate in hunting, fishing, gathering
 - Recognize unity and connections between the environment and all living things (animals, plants, people)



TRIBES HAVE HOLISTIC DEFINITIONS OF HEALTH

- Physical health is not the only way Tribes define health
- Tribes may consider health to include things like:
 - Sense of place
 - Identity
 - Community
 - Connection to lands, cultures, languages, and traditions
- Climate change affects physical and non-physical health





Example of non-physical indigenous health indicators identified by Swinomish Indian Tribal Community (in northwest Washington state)

CLIMATE CHANGE HARMS GENERAL WELLBEING

- Climate change can harm or destroy:
 - Homes
 - Cultural sites
 - Sources of income/subsistence
 - Traditional ways of life
- *Many Tribal communities are underserved, low-resources and low-income, worsening these problems
- Tribes have already lost so much in the past centuries

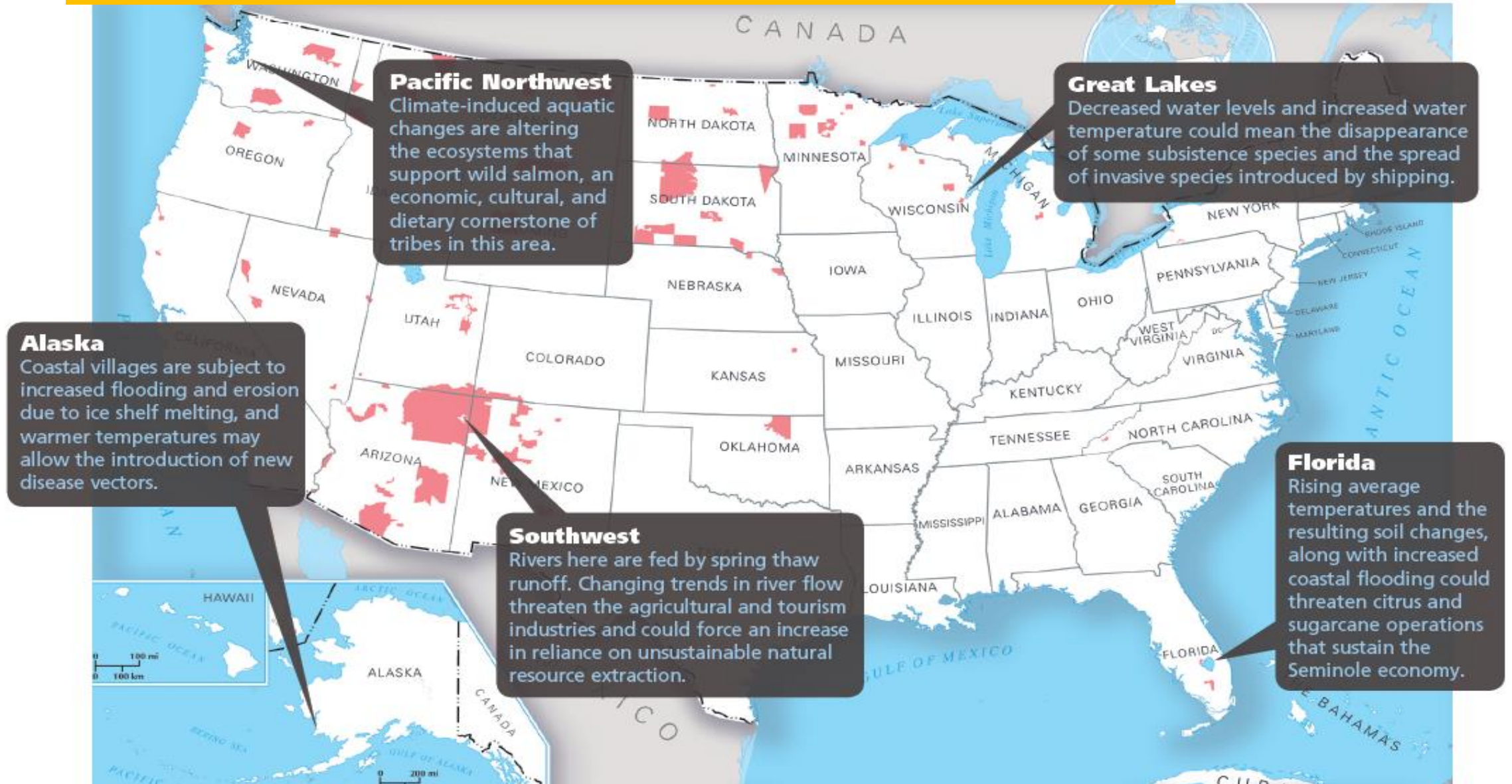


ALASKA HAS SPECIAL CONSIDERATIONS

- 229 federally-recognized Tribes call Alaska home
- The Arctic is warming twice as fast as the rest of the planet
- Some communities have few opportunities for full-time employment and rely on subsistence foods
- 86% percent of Alaska Native villages are at risk of climate-related damage such as flooding and erosion
- 31 villages meet criteria for long-term relocation – taking away homelands where their ancestors have lived since time immemorial
- Alaska Native people traditionally store food in permafrost ice cellars buried in the ground, but warming can make this less safe or reliable [4]
- In communities with no roads in or out, changing weather patterns can upend traditional means of transport, leading to isolation and requiring alternate transportation which can lead to unintentional injury or death as well as mental harms such as loneliness, depression, stress, anxiety, suicidal ideation, substance abuse, and domestic violence [5]



Examples of Climate Change's Impacts on 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.

Source: Climate Change and Health: A Native American Perspective

QUESTIONS & DISCUSSION

PLEASE USE CHAT BOX, NOT Q&A BOX



THANK YOU!

SOURCES CITED

[1] U.S. Census Bureau. (2016) Current Population Survey, Annual Social and Economic Supplements. Table I3, Number of Families Below the Poverty Level and Poverty Rate: 1959 to 2015.

[2] https://www.nytimes.com/interactive/2017/11/25/climate/arctic-climate-change.html?mtrref=m.facebook.com&_r=0

[3] <http://www.ncai.org/policy-issues/land-natural-resources/water>

[4] <http://www.ncai.org/policy-issues/land-natural-resources/climate-change>

[5] https://www.nytimes.com/interactive/2017/11/25/climate/arctic-climate-change.html?mtrref=m.facebook.com&_r=0