



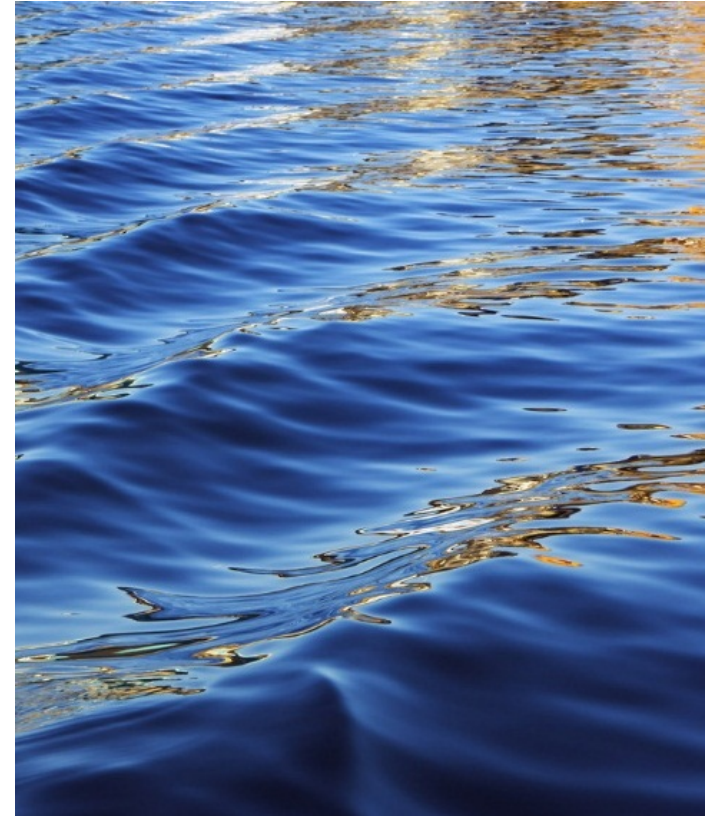
**TRIBAL CLIMATE
HEALTH PROJECT**



Northwest Cohort

Remote Group Technical Assistance

April 20, 2020; 9-11am PST



Today's Agenda

9:00 – 11:00am

- Introductions
- Regional resources
- Facilitated discussion to share regional knowledge, experiences, ideas and needs
- Demonstration of TCHA tools
- Technical assistance/Q&A

Bureau of Indian Affairs

U.S. Domestic Sovereign Nations



Introductions

Purpose

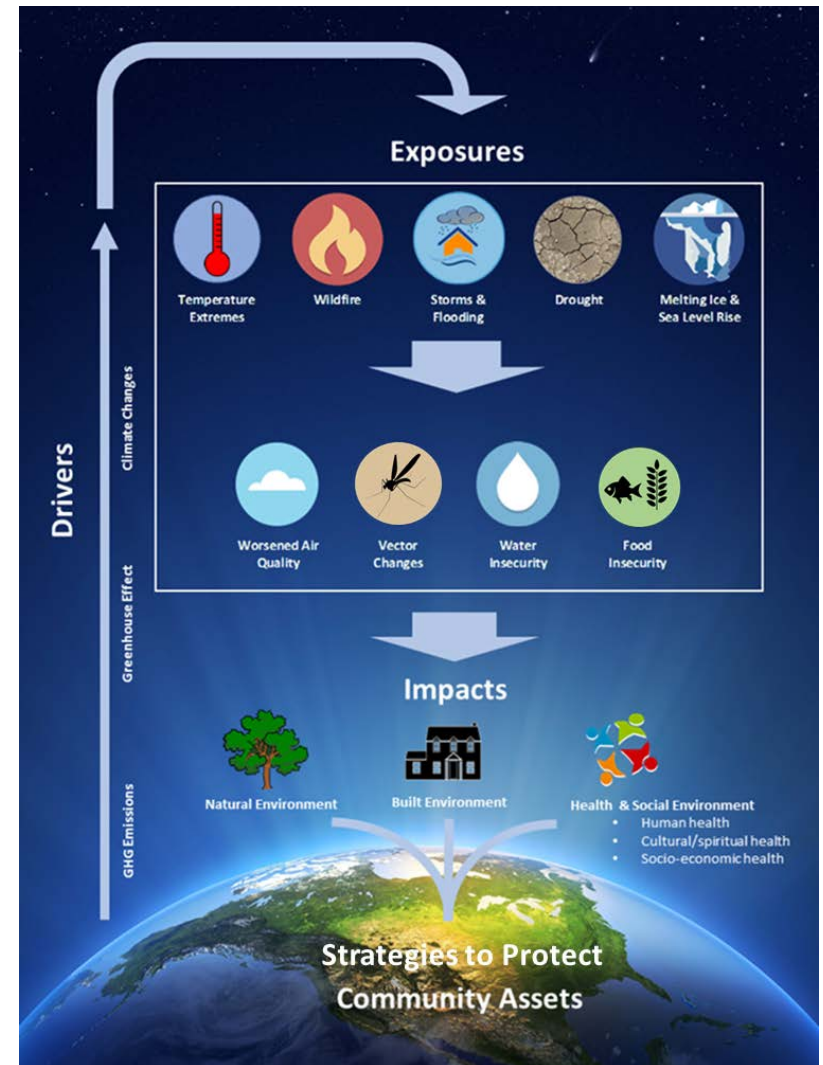
- Technical assistance remote workshops are designed for and focused exclusively on the unique climate and health exposures, impacts and strategies of selected regional cohorts
- Supplements the national training by leveraging and sharing region-specific knowledge, data, partnerships, and other opportunities and resources
- Supports regional and multidisciplinary relationship building and collaboration

Please introduce yourself

- Name
- Organization
- Location
- Your role in climate change

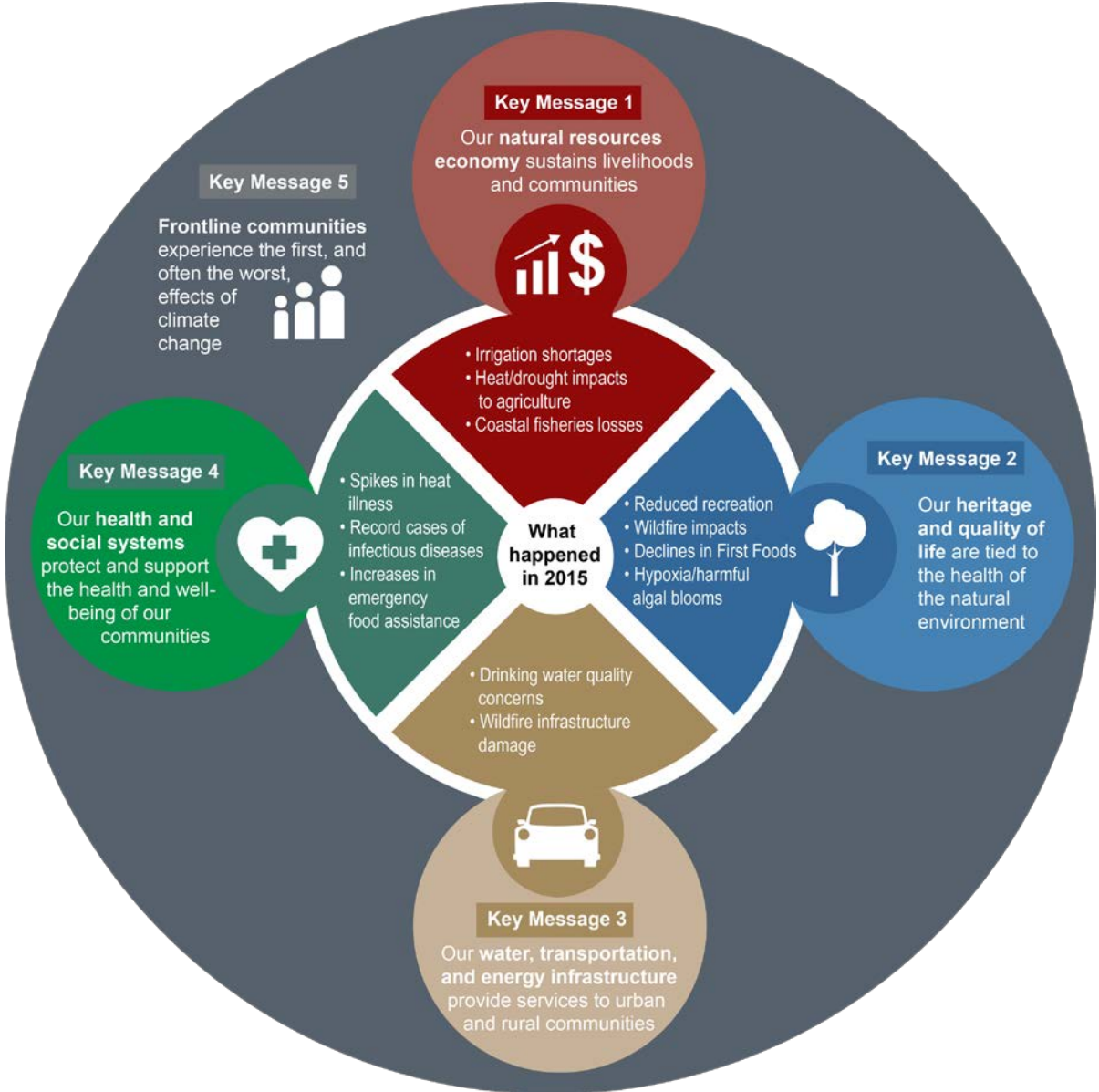
Introduction to Northwest Climate Exposures and Impacts

- Changes in the timing of streamflow reduce water supplies for competing demands.
- Sea level rise, erosion, inundation, risks to infrastructure, and increasing ocean acidity pose major threats.
- Increasing wildfire, insect outbreaks, and tree diseases are causing widespread tree die-off.



Group Discussion:
What health impacts is your community is facing?

Introduction to Northwest Climate Exposures and Impacts



Regional Resources

A few places to find more information about Northwest exposures and impacts

Reports

**Fourth National Climate Assessment
Northwest Chapter**

<https://nca2018.globalchange.gov/chapter/24/>

Northwest Highlights

<https://nca2014.globalchange.gov/highlights/regions/northwest>

Tribes and Indigenous People's Chapter

<https://nca2018.globalchange.gov/chapter/15/>

**USDA - Climate Change and Indigenous Peoples: A
Synthesis of Current Impacts and Experiences**

https://www.fs.fed.us/pnw/pubs/pnw_gtr944.pdf

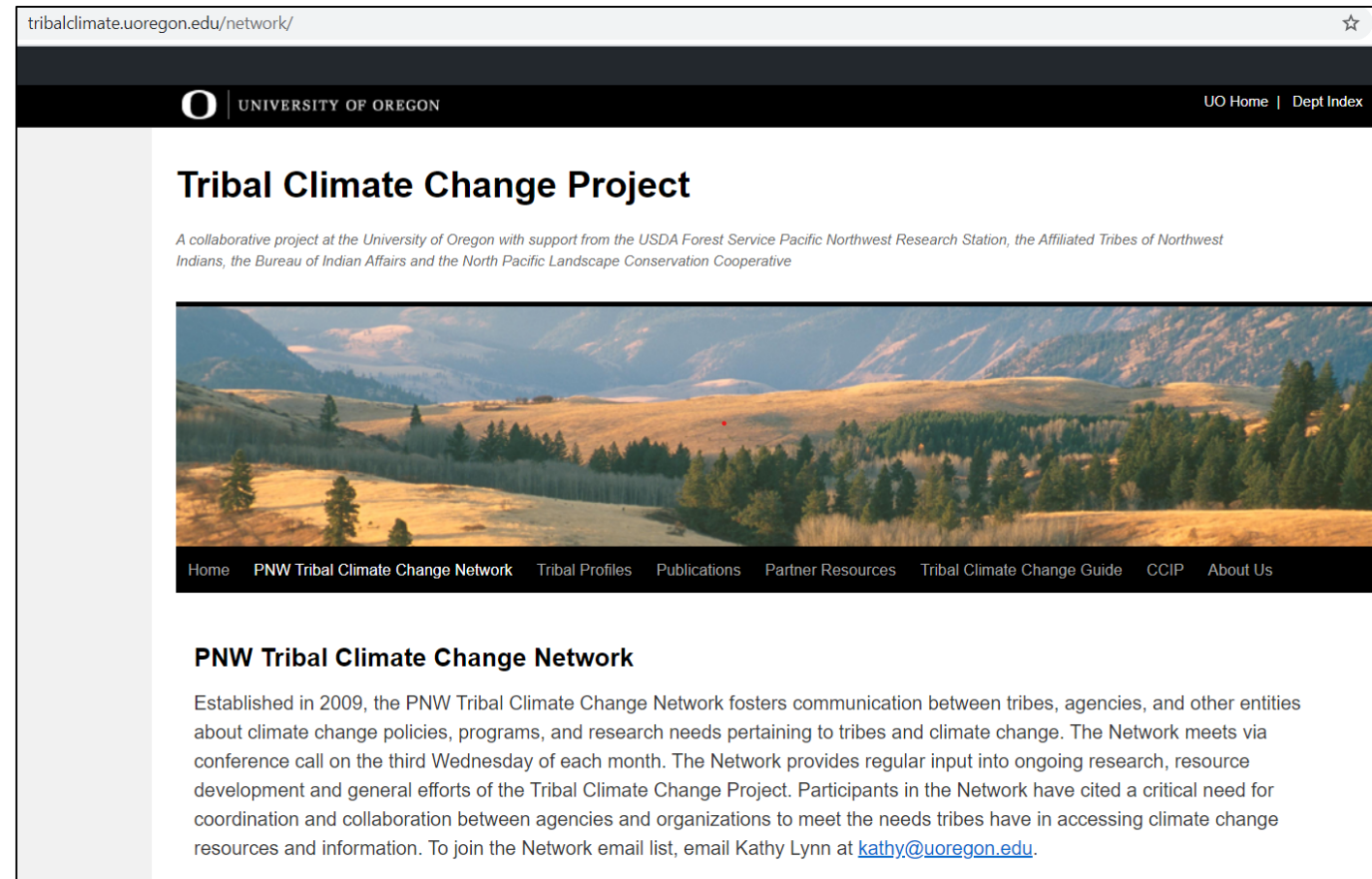


Regional Resources

Pacific Northwest Tribal Climate Change Network Tribal Climate Change Project University of Oregon

<https://tribalclimate.uoregon.edu/network/>

- Network calls foster communication amongst agencies
- Tribal Climate Change Guide

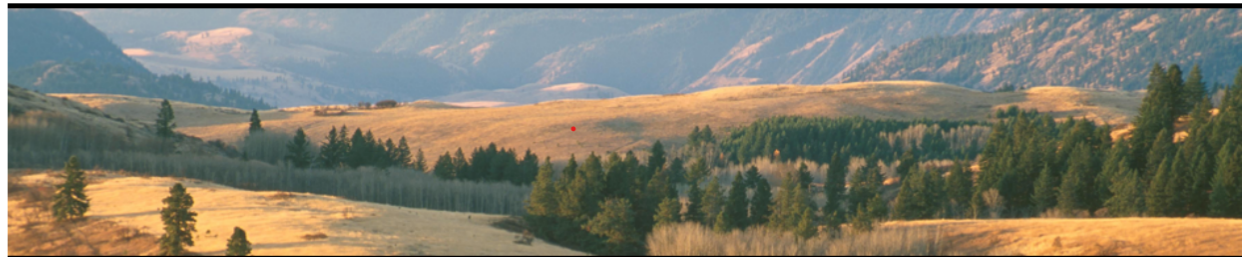


tribalclimate.uoregon.edu/network/ ☆

UNIVERSITY OF OREGON UO Home | Dept Index

Tribal Climate Change Project

A collaborative project at the University of Oregon with support from the USDA Forest Service Pacific Northwest Research Station, the Affiliated Tribes of Northwest Indians, the Bureau of Indian Affairs and the North Pacific Landscape Conservation Cooperative



Home PNW Tribal Climate Change Network Tribal Profiles Publications Partner Resources Tribal Climate Change Guide CCIP About Us

PNW Tribal Climate Change Network

Established in 2009, the PNW Tribal Climate Change Network fosters communication between tribes, agencies, and other entities about climate change policies, programs, and research needs pertaining to tribes and climate change. The Network meets via conference call on the third Wednesday of each month. The Network provides regular input into ongoing research, resource development and general efforts of the Tribal Climate Change Project. Participants in the Network have cited a critical need for coordination and collaboration between agencies and organizations to meet the needs tribes have in accessing climate change resources and information. To join the Network email list, email Kathy Lynn at kathy@uoregon.edu.

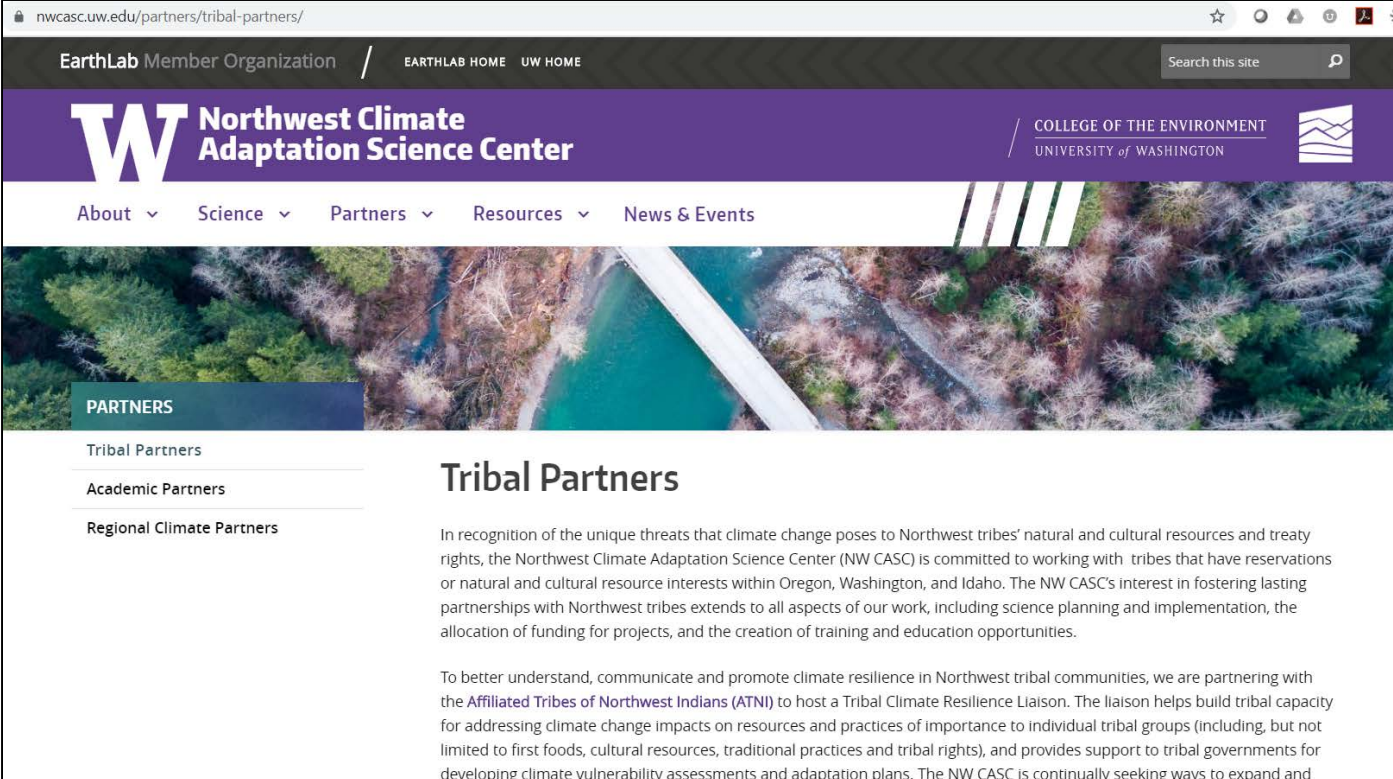
Regional Resources

Chas Jones

Tribal Liaison with the
Affiliated Tribes of Northwest Indians &
NW Climate Adaptation Science Center

<https://nwcasc.uw.edu/partners/tribal-partners/>

cejones@usgs.gov



The screenshot shows a web browser window displaying the Northwest Climate Adaptation Science Center website. The URL in the address bar is nwcasc.uw.edu/partners/tribal-partners/. The page header includes "EarthLab Member Organization" and navigation links for "EARTH LAB HOME" and "UW HOME". The main header features the "Northwest Climate Adaptation Science Center" logo and the "COLLEGE OF THE ENVIRONMENT UNIVERSITY of WASHINGTON" logo. A navigation menu includes "About", "Science", "Partners", "Resources", and "News & Events". The main content area has a background image of a river and forest. A "PARTNERS" section is visible, with sub-sections for "Tribal Partners", "Academic Partners", and "Regional Climate Partners". The "Tribal Partners" section contains the following text:

Tribal Partners

In recognition of the unique threats that climate change poses to Northwest tribes' natural and cultural resources and treaty rights, the Northwest Climate Adaptation Science Center (NW CASC) is committed to working with tribes that have reservations or natural and cultural resource interests within Oregon, Washington, and Idaho. The NW CASC's interest in fostering lasting partnerships with Northwest tribes extends to all aspects of our work, including science planning and implementation, the allocation of funding for projects, and the creation of training and education opportunities.

To better understand, communicate and promote climate resilience in Northwest tribal communities, we are partnering with the Affiliated Tribes of Northwest Indians (ATNI) to host a Tribal Climate Resilience Liaison. The liaison helps build tribal capacity for addressing climate change impacts on resources and practices of importance to individual tribal groups (including, but not limited to first foods, cultural resources, traditional practices and tribal rights), and provides support to tribal governments for developing climate vulnerability assessments and adaptation plans. The NW CASC is continually seeking ways to expand and

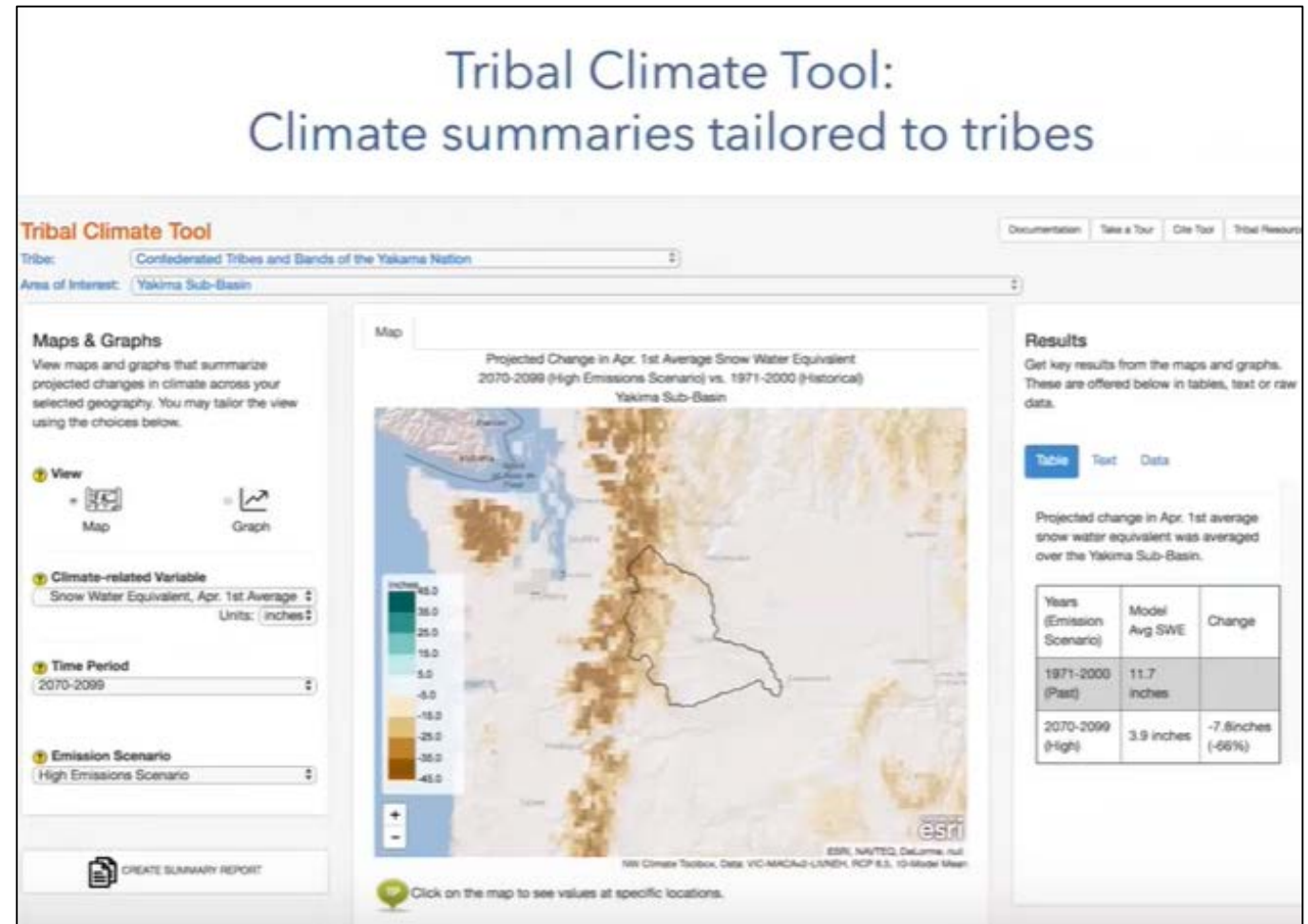
Regional Resources

Tribal Climate Tool & Tribal Support Desk
University of Washington,
Climate Impacts Group

<https://cig.uw.edu/resources/tribal-vulnerability-assessment-resources/tribal-climate-tool/>

<https://cig.uw.edu/resources/tribal/>

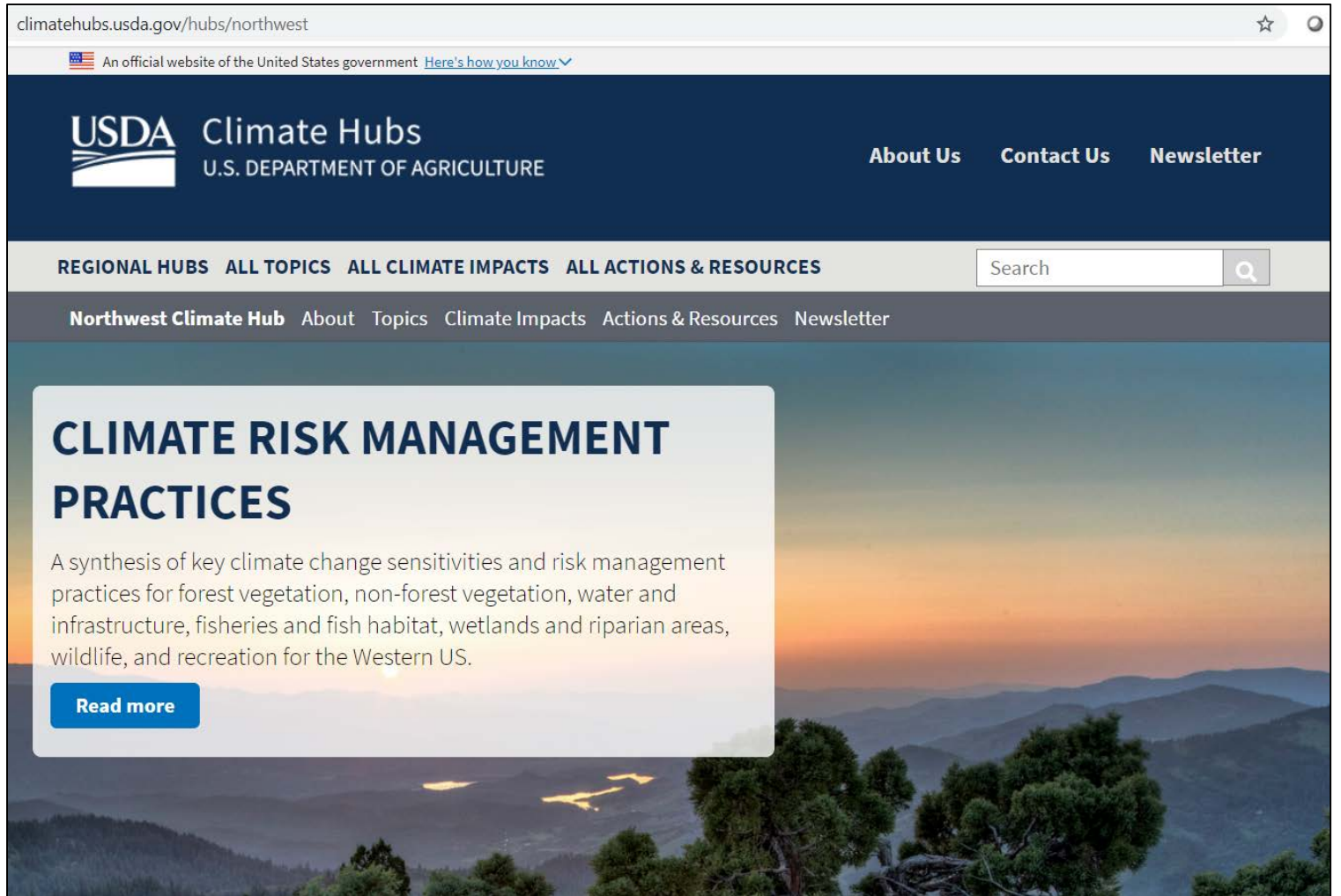
- Data by tribal boundaries
- Technical assistance



Regional Resources

Northwest Climate Hub

<http://climatehubs.oce.usda.gov/northwest>



The screenshot shows the website climatehubs.usda.gov/hubs/northwest. The header includes the USDA logo and "Climate Hubs U.S. DEPARTMENT OF AGRICULTURE". Navigation links for "About Us", "Contact Us", and "Newsletter" are present. A secondary navigation bar lists "REGIONAL HUBS", "ALL TOPICS", "ALL CLIMATE IMPACTS", and "ALL ACTIONS & RESOURCES", along with a search box. A third navigation bar highlights "Northwest Climate Hub" and includes links for "About", "Topics", "Climate Impacts", "Actions & Resources", and "Newsletter". The main content area features a large article titled "CLIMATE RISK MANAGEMENT PRACTICES" with a sub-headline "A synthesis of key climate change sensitivities and risk management practices for forest vegetation, non-forest vegetation, water and infrastructure, fisheries and fish habitat, wetlands and riparian areas, wildlife, and recreation for the Western US." and a "Read more" button. The background of the page is a scenic landscape of mountains and trees at sunset.

Regional Resources

Tribal Epidemiology Centers

Northwest

<http://tribalepicenters.org/northwest-tribal-epidemiology-center/>

California

<http://tribalepicenters.org/california-tribal-epidemiology-center/>

TRIBAL EPIDEMIOLOGY CENTERS

HOME ABOUT 12 TECS RESOURCES NEWS EVENT

THERE ARE 12 NATIONALLY RECOGNIZED TRIBAL EPIDEMIOLOGY CENTERS

Click on a region to view a specific TEC page

Urban Indian Health Institute

Northwest

California

Navajo

Inter-Tribal Council of Arizona, Inc.

Navajo

Albuquerque Area Southwest

Rocky Mountain

Great Plains

Great Lakes

United South & Eastern Tribes

AK

WA

OR

ID

CA

NV

UT

AZ

NM

CO

KS

OK

TX

MT

WY

ND

SD

NE

IA

MO

AR

LA

MS

AL

GA

SC

NC

VA

WV

PA

NY

VT

ME

NH

MA

RI

CT

NJ

DE

MD

DC

IL

IN

OH

MI

WI

MN

FL

Regional Resources

- State specific resources: Washington

Washington State Department of Health

Climate and Health Page
<https://www.doh.wa.gov/CommunityandEnvironment/ClimateandHealth>

Washington Tracking Network
<https://fortress.wa.gov/doh/wtn/WTNPortal/>

The screenshot displays the Washington Tracking Network (WTN) portal. On the left is a sidebar with search and filter options:

- View two measures together ?
- Measure 1
- Keyword Search: Search measures
- Section: Select a section
- Topics: Select a topic
- Sub Topic: Select a sub topic
- Measure: Select a measure
- Filters: Geography (Select a geography)
- Submit

The main content area is titled "Measure 1" and includes:

- Getting Started**
 - You can search for data using the "keyword search" box on the left.
 - Narrow your search using the drop-down selections.
 - Or, select from the topics below then hit the submit button.
- Data Available on WTN**
 - Climate and Health**
 - Environment** (air stagnation, drought, flood risk, natural hazards, snow pack, urban heat, weather extremes, wildfires)
 - Carbon Sources** (commute to work, electricity use)
 - Community**
 - Community Characteristics**
 - Economic (children living in poverty, HUD unaffordable housing and transportation, income spent on housing, income spent on transportation, populations living in poverty, poverty, unaffordable housing, unaffordable transportation and unemployed)
 - Education (college, no high school diploma, some college)
 - Emergency preparedness and response
 - Housing (housing with 10+ units, mobile homes, overcrowded housing)
 - Languages (limited English, limited English proficiency (LEP) - counts and percentages, student data for LEP)
 - Neighborhood Characteristics (alcohol outlet density, health professional shortage areas, limited access to healthy food, low voting rates, park access, poor land use mix, unoccupied housing)
 - Population** (median household income, migrant farm labor, population, no access to a private vehicle, people of color, population 18 to 65 with no health insurance, population 65+ living alone, population under 5 years old, population with a disability, race, single parent household)
 - Transportation** (transportation safety, transportation to work)
 - Environment**
 - Air quality** (air quality feature map layers, ground level ozone, PM2.5, wildfire occurrences, diesel emissions)
 - Drinking water** (atrazine - herbicide, drinking water systems, nitrates, PCE, radium, arsenic, DEHP, HAA5, TCE, TTHM, Uranium)
 - Environmental Justice** (Environmental Effects=proximity to Hazardous Waste Treatment Storage and Disposal Facilities (TSDFs), Proximity to National Priorities List Facilities (Superfund Sites), Proximity to Risk Management Plan (RMP) Facilities, Wastewater Discharge; Environmental Exposures=ozon concentration, PM2.5 Concentration, Toxic Releases from Facilities (RSEI Model))
 - Radon** (test results, smoking/lung cancer)
 - Traffic Air Pollution** (populations near heavy traffic roadways, road traffic air pollution)
 - Zoonotic Diseases** (West Nile Virus for birds, mammals and mosquitos)

Regional Resources

- State specific resources: Oregon

Oregon Health Authority

Oregon Climate and Health Profile Report

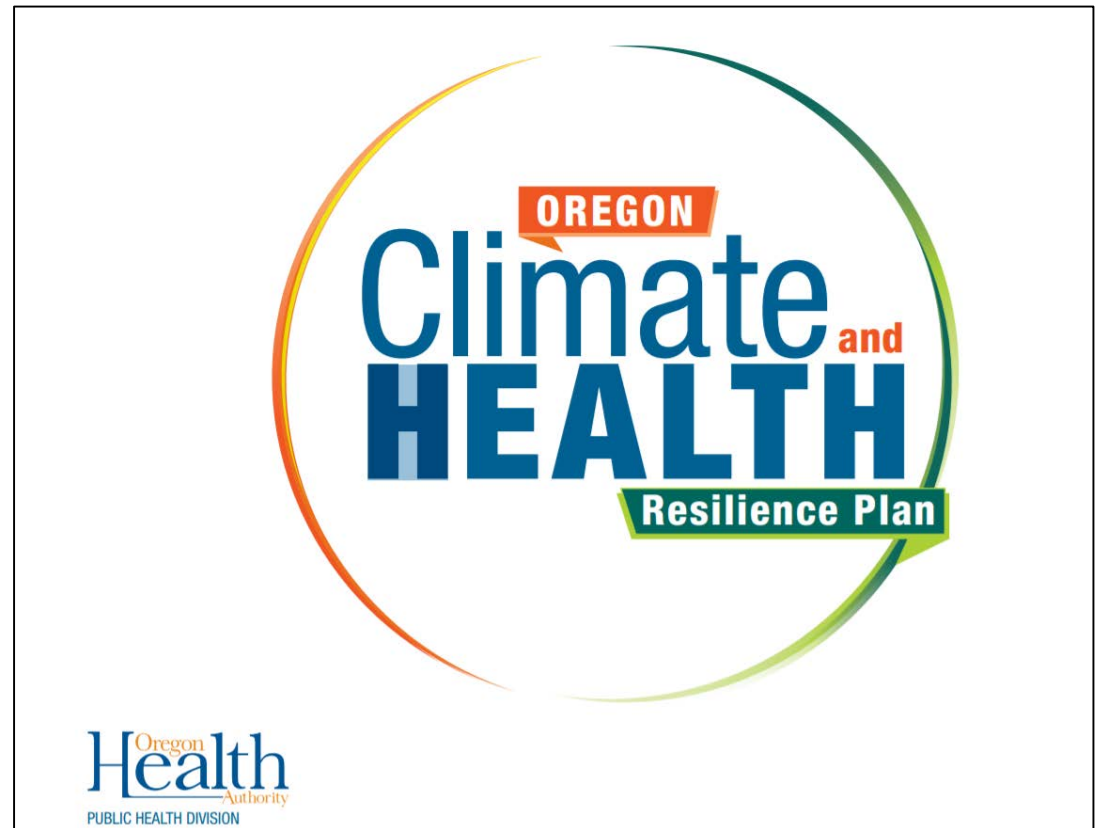
<https://www.oregon.gov/oha/PH/HEALTHYENVIRONMENTS/CLIMATECHANGE/Pages/profile-report.aspx>

Oregon Climate & Health Resilience Plan

<https://sharesystems.dhsoha.state.or.us/DHSForms/Served/le8267a.pdf>

Social Resilience Project

<https://www.oregon.gov/oha/PH/HEALTHYENVIRONMENTS/CLIMATECHANGE/Pages/social-resilience.aspx>



Regional Resources

- State specific resources: California

Cal-Adapt

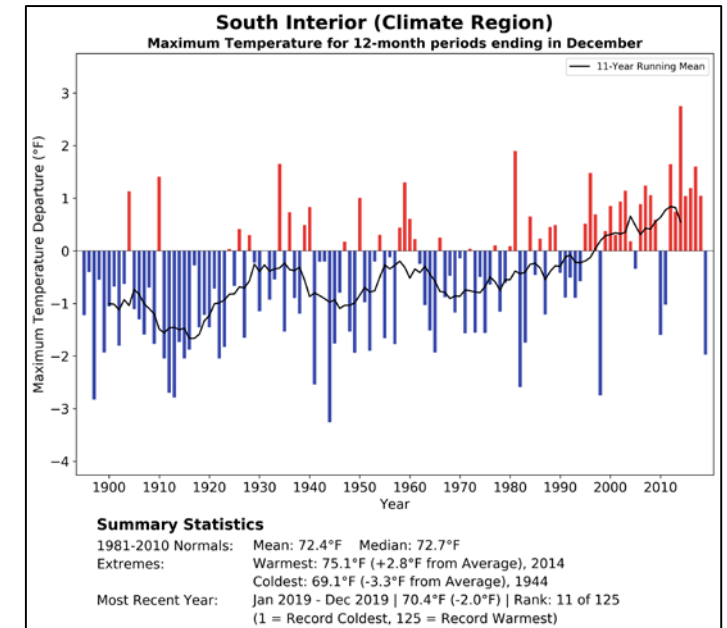
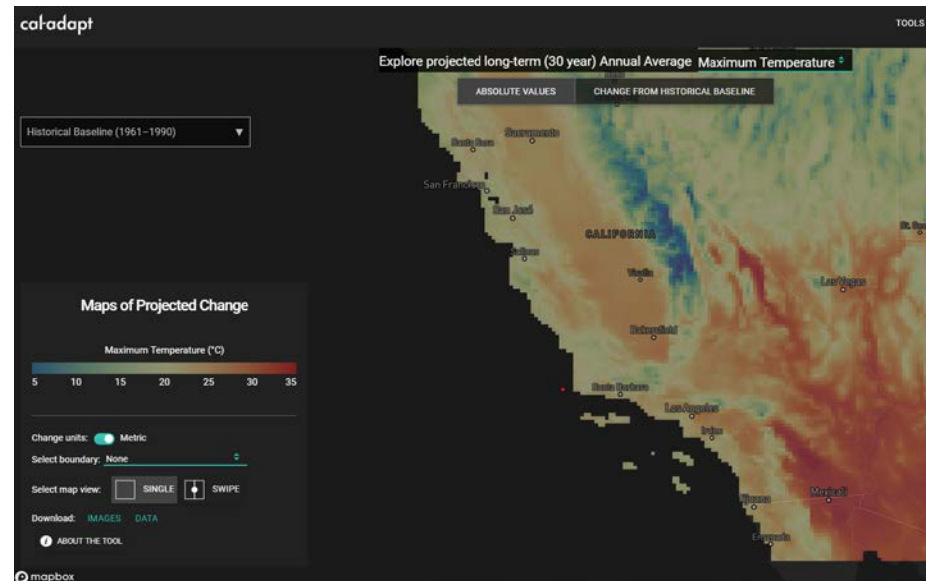
<https://cal-adapt.org/>

- Map/chart data tools of temp, precip,

CA Climate Tracker

<https://wrcc.dri.edu/Climate/Tracker/CA/index.html>

- Temp, precipitation by region



Regional Resources

- State specific resources: California

CHAT – CA Heat Assessment Tool

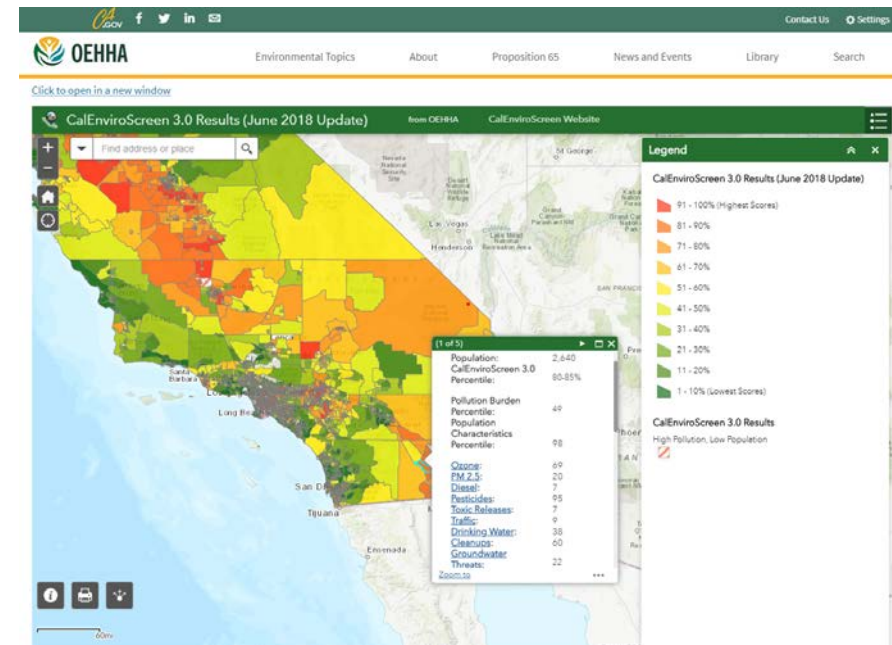
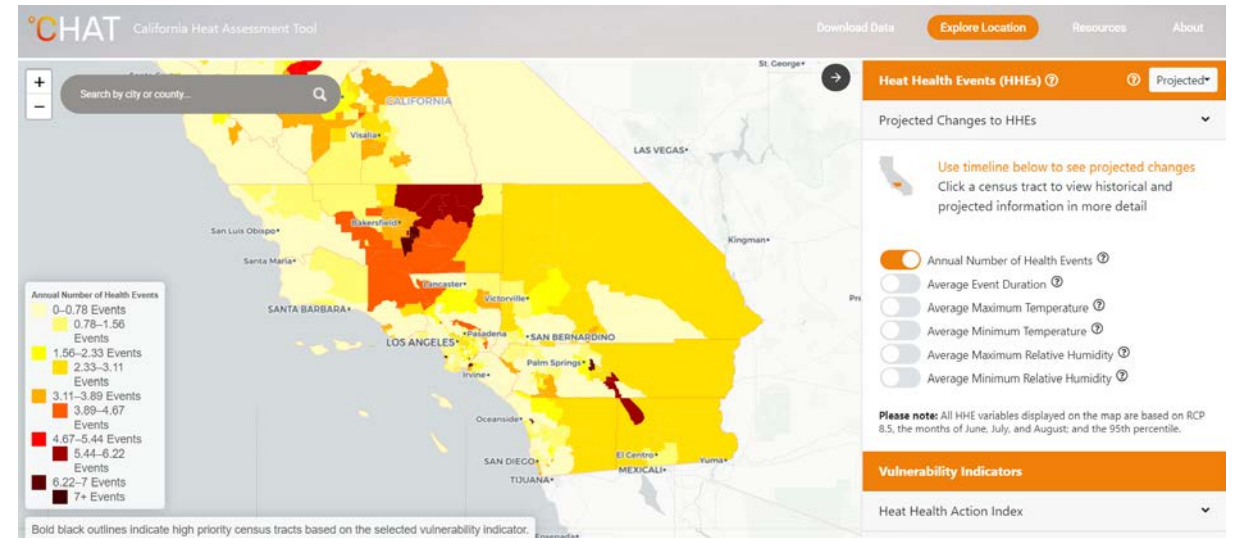
<https://cal-heat.org/>

- Heat health events

CalEnviroScreen

<https://oehha.ca.gov/calenviroscreen>

- Map/chart data tools of temp, precip,



Regional Resources

State specific resources: California

CA Healthy Places Index

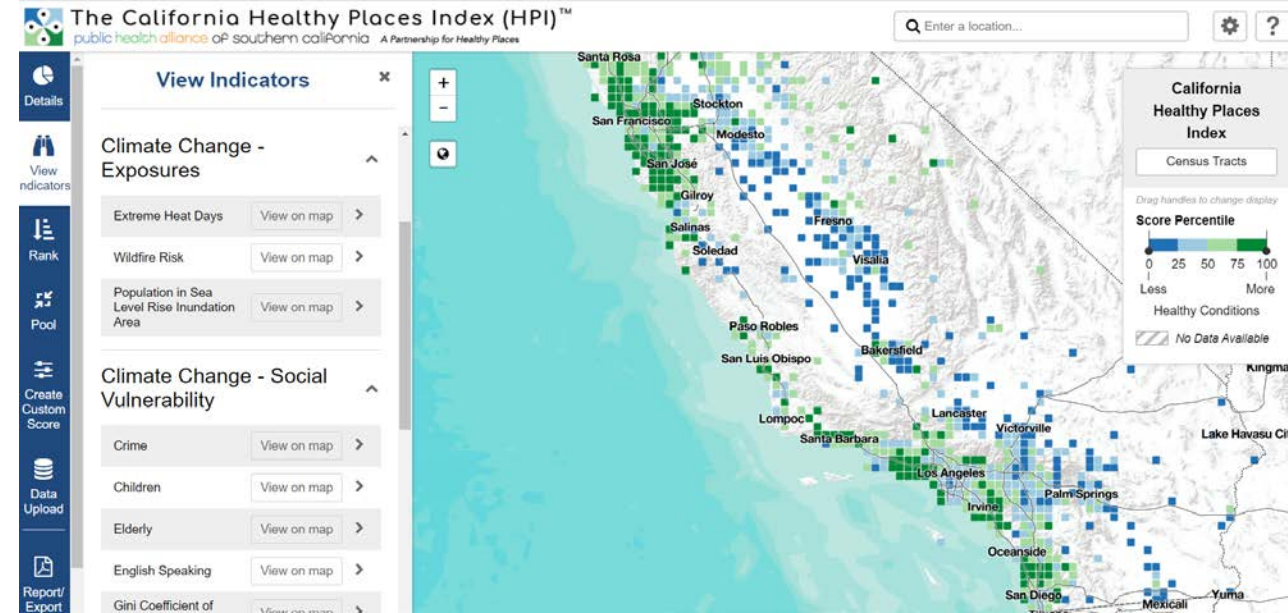
<https://healthyplacesindex.org/>

- Health and social vulnerability indicators, etc

Climate Change & Health Vulnerability Indicators for CA (CDPH)

<https://skylab.cdph.ca.gov/CCHVlz/>

- Environmental exposures, population sensitivity, adaptive capacity



ENVIRONMENTAL EXPOSURES	Extreme Heat Days	Projected number of extreme heat days ¹
	Air Quality (PM_{2.5})	Three-year annual mean concentration of particulate matter (PM _{2.5}) ^{3, 5}
	Air Quality (ozone)	Three-year ozone concentration exceedance above state standard ^{3, 5}
	Wildfires	Percent of population currently living in high risk fire hazard zone ^{4, 5}
	Sea Level Rise (in coastal areas)	Percent of population living in 100-year flood zone and 55 inches of sea level rise ^{2, 4}
POPULATION SENSITIVITY	Children	Percent of population aged less than 5 years ⁷
	Elderly	Percent of population aged 65 years or older ⁷
	Poverty	Percent of population whose income in the past year was below poverty level ⁷
	Education	Percent of population aged ≥25 years with less than high school educational attainment ⁷
	Outdoor Workers	Percent of population employed and aged ≥16 years working outdoors ⁷
	Vehicle Ownership	Percent of occupied households with no vehicle ownership ⁷
	Linguistic Isolation	Percent of households with no one aged ≥14 years speaking English ⁷
	Physical Disability	Percent of population with physical disability (ambulatory disability) ⁷
	Mental Disability	Percent of population with mental disability (cognitive disability) ⁷
ADAPTIVE CAPACITY	Health Insurance	Percent of population without health insurance ⁷
	Violent Crime Rate	Number of violent crimes per 1,000 residents ⁸
	Air Conditioning	Percent of households without air conditioning ^{9, 5}
	Tree Canopy	Percent of area not covered by tree canopy ^{10, 5}
	Impervious Surfaces	Percent of area covered by impervious surfaces ^{10, 5}

*Indicator is weighted by population, which means the value of the indicator will be higher or lower depending on population density in the locality.

Data Sources:

- 1: CalAdapt (projected to 2100), accessed 10/2018
- 2: CalAdapt; Pacific Institute; U.S. Geological Survey (USGS) accessed 12/2016
- 3: California Air Resources Board (2009-2011); CalEnviroScreen 3.0 (2012-2014)
- 4: California Department of Forestry and Fire (CAL FIRE) (2007)

- 5: U.S. Decennial Census by U.S. Census Bureau (2010)
- 6: American Community Survey (ACS) by U.S. Census Bureau (2011-2015)
- 7: Uniform Crime Reports from U.S. Federal Bureau of Investigation (2013)
- 8: Residential Appliance Saturation Survey (RASS) (2009)
- 9: National Land Cover Database (NLCD) (2011, 2016)

Regional Resources

State specific resources: California

CalOES MyHazards

<http://myhazards.caloes.ca.gov/>

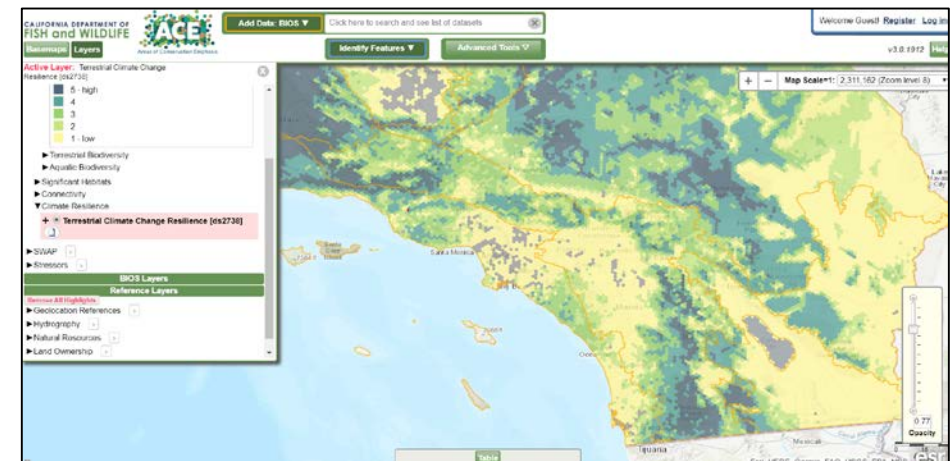
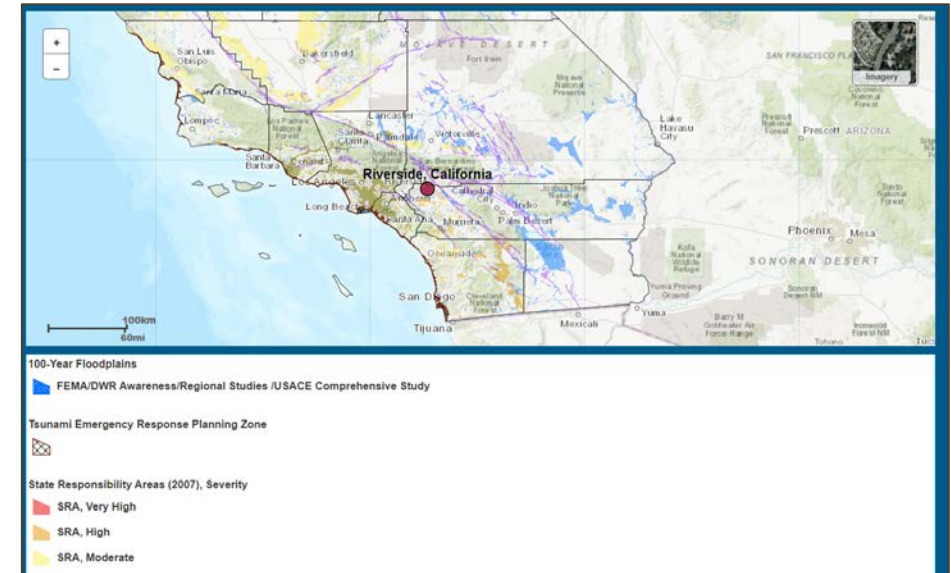
- Flood, fire, etc

CDFW BIOS and ACE

<https://apps.wildlife.ca.gov/bios/>

<https://apps.wildlife.ca.gov/ace/>

- Natural environment impacts, species biodiversity, climate resilience, etc



Regional Resources

State specific resources: California

Reports

CA's Fourth Climate Change Assessment

- [Summary Report from Tribal and Indigenous Communities within CA](#)
- [Regional Reports](#)

[CA Department of Public Health – County Climate Health Profiles](#)

[APEN “Mapping Resilience: A Blueprint for Thriving in the Face of Climate Disasters”](#)

What has your organization to prepare for the health or other impacts of climate change?

What health impacts are you most concerned about?

What resources have been particularly useful?

What were some of your biggest challenges?

What adaptation strategies are working?

How have you partnered with other tribes or agencies in the region?

Facilitated Discussion

Facilitated discussion to share regional knowledge, experiences, ideas and needs

Demonstration of TCHP Tools

www.tribalclimateahealth.org



[About](#) [Learn](#) [News/Events](#) [Connect](#)

Adaptation Planning Tool – [Exposures, Impacts, and Strategies Inventory \(EISI\) tool](#) (Updated October 2, 2019 BETA VERSION). This is a draft of a customizable companion tool that can support communities that are conducting adaptation planning. Information and data sources are compiled and organized to present information needed at several decision-making steps to help your community prepare to take the most effective actions. We are continuing to build functionality and improve information. The latest update includes more indicators and data sources (national and California specific). Please send questions or comments to ahacker@prospersustainably.com.

Survey Template – [Climate Vulnerability Experiences and Priorities Survey](#) for gathering initial community input. If you have a Google account, you can use [this link](#) to create and save a copy of this template to customize for your tribe.

Sample Reports – [Pala Band of Mission Indians Climate Change Vulnerability Assessment](#) and [Climate Change Adaptation Plan](#). These reports incorporate health impacts and strategies. This Word version allows others to modify for their own community.

Fact Sheets – Pala Band of Mission Indian produced the following fact sheets to help their community understand high-risk climate exposures and how to recognize and prepare for climate threats:

- [Extreme Heat \(Elevated Temperatures\)](#)
- [Wildfires](#)
- [Flooding and Storms](#)
- [Drought](#)

Other Relevant Training Materials not Produced by the Tribal Climate Health Project

Tribal Resolution Template – [ITEP's Tribal Climate Change Resolution Template](#)

Technical Assistance/Q&A

What other Technical Assistance questions do you have?

Additional Regional Resources Shared By Attendees During Meeting

- “Puget Sound Climate Preparedness Collaborative that offer a lot of workshops specific to WA. Webinars will begin possibly by the summer”
<https://pugetsoundclimate.org/>”
- “Tribal Climate Camp” <http://atntribes.org/climatechange/tribal-climate-camp/>”
- “Subscribe to ATNI's climate change newsletter”
<http://atntribes.org/climatechange/subscribe/>
- “BIA Tribal Resilience Program” <https://www.bia.gov/bia/ots/tribal-resilience-program>
- “CA Tribal Resilience Liaison Althea Walker” <https://www.bia.gov/bia/ots/tribal-resilience-program>; AWalker@aihec.org
- “Register for ITEP online working group to develop emergency mgmt plan (May 1 deadline)” <https://docs.google.com/forms/d/e/1FAIpQLSccCJqxoEg-bc57z7TRlo6PgYgZZmgQ2fGkki8vtQbavScVoA/viewform>