Native Peoples & Climate Change: USFS R&D Research Program

Marla R. Emery, Ph.D.
USDA Forest Service R&D
Burlington, VT
memery@fs.fed.us

Tribes & climate change research program

- Core principles
- Goal
- Objectives
- Implementation strategy
- Accomplishments to date
- Future opportunities

Jamestown S'Klallam Tribal Center. Photo used by permission: Kathy Lynn, University of Oregon Tribal Climate Change Program.

Core principles

- Indigenous peoples have millennia of experience adapting to climate and other changes
- Active contributors to climate change responses for their own communities & humanity at large
- Research partnerships enhance results for all

Harvesting birch bark. Photo used by permission: Great Lakes Indian Fish & Wildlife Commission

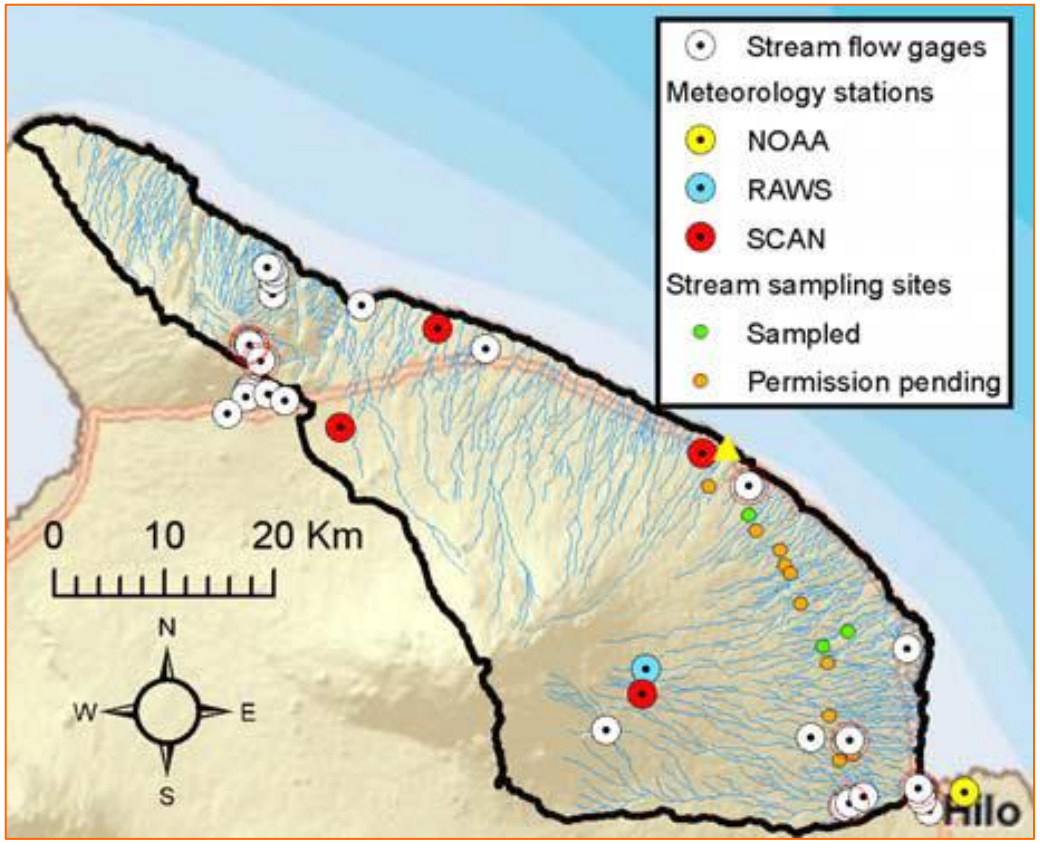
Goal

- Partnerships with American Indian, Alaska Native, and Native Hawaiian tribes & organizations
- Science & TEK to address climate change vulnerabilities
- Share insights, driven by Native partners

Bernice Brown gathering berries in Golovon, AK. Photo used by permission: Ellen Donoghue

Objectives

- Identify key tribal climate change research & information needs
- Build a robust portfolio of research projects with Native partners
- Share research results with forest managers, tribes, and other scientists
- Protect intellectual property



Climate change & Pacific Island water resources study area. Used by permission: Institute of Pacific Islands Forestry.

Implementation strategy

- USFS -- federal agency
- Tribes -- sovereign nations

- Nationally funded & coordinated
- Honoring sovereignty through partnership with individual tribes, Native organizations, & academic centers

Thank you, Google Images.

Accomplishments: Partnerships, networks, & studies

- Pacific Northwest Tribal Climate Change Network
  - Teleconferences/4 weeks
    - Tribes & intertribal organizations
    - State & federal agencies
    - Conservation orgs
    - NGOs
    - Academics
    - Northwest Climate Science Center & 3 Landscape Conservation Cooperatives

Aerial view of Swinomish Indian Reservation and LaConnor vicinity. Photo used by permission: Swinomish Indian Tribal Community

Accomplishments

Adaptation & mitigation profiles

- First foods & climate change
- Swinomish climate change initiative
- Nez Perce Tribe carbon sequestration program
- TEK & healthy ecosystems

http://tribalclimate.uoregon.edu/tribal-profiles/

Berries are an essential first food. Photo used by permission: Marla R. Emery.

Accomplishments

- Understanding impacts of climate change on Native Hawaiian & Pacific Island Communities
  - Workshops & decision support tools for Native Hawaiian resource managers & decision makers
  - Climate policy forum for indigenous peoples of Hawai'i & the Pacific

High school students "Conservation of Native Hawaiian Streams" mural. Photo used by permission: Christian Giardina

Accomplishments

- Climate change uncertainty in forest & fire plan revision, Confederated Salish & Kootenai Tribes

Mission Mountain landscape on the Flathead Indian Reservation, illustrated fire regimes. Used by permission: Alan Watson.

Accomplishments

- Southwest Tribal Climate Change Network (AZ & NM)
  - Teleconference/4-6 weeks
  - Tribes
  - State & federal agencies
  - Other interested parties
- http://www4.nau.edu/itep/climatechange/

ITEP staff taking notes, Southwest Tribal Climate Change Workshop 9/2011.

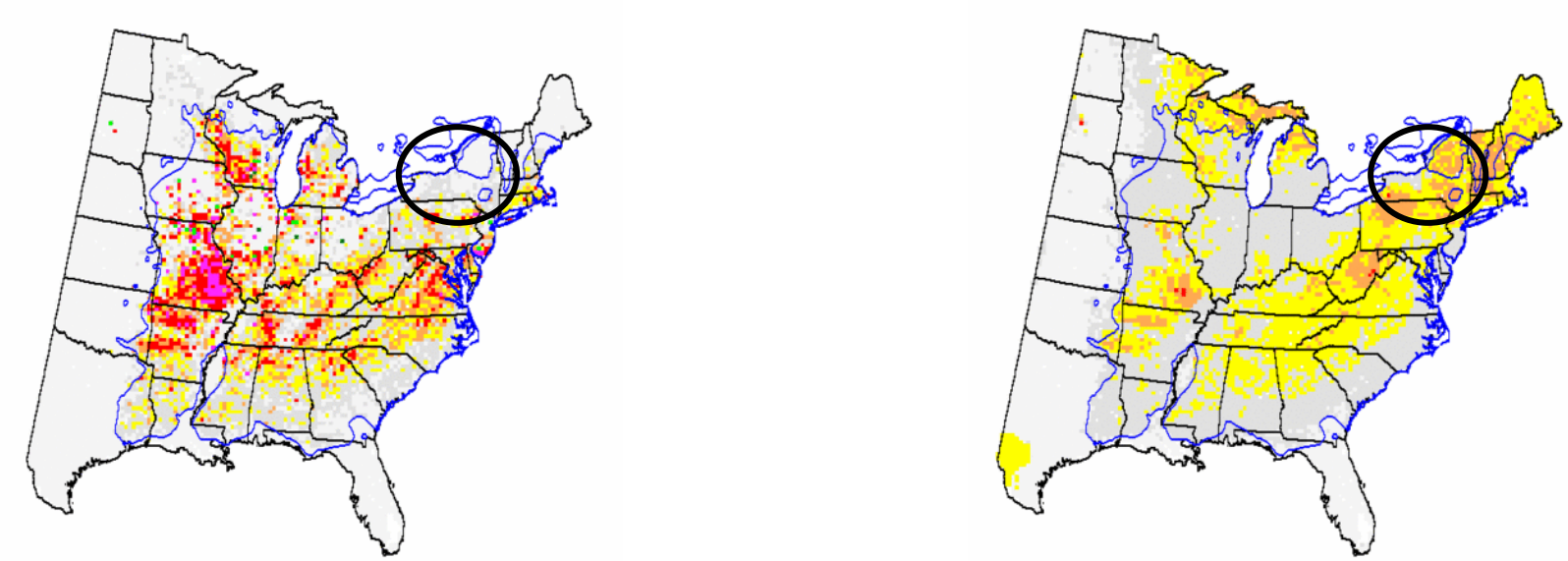
Accomplishments

- Impact of Climate Change on Tribal Resource Management
  - Eastern Band of Cherokee Indians
  - Cherokee Nation
  - Mississippi Band of Choctaw
  - Choctaw Nation
  - Muscogee Nation

University of Georgia Institute of Native American Studies faculty & Eastern Band of Cherokee Indian tribal natural and cultural resource professionals at Kituwah. Photo used by permission: John Schelhas.

Accomplishments

- Assisted migration of culturally important tree species, Haudenosaunee (Iroquois) Environmental Task Force



White oak (*Quercus alba*) range: Current FIA data (right) and modeled Hadley High climate change scenario (left), Haudenosaunee territory circled. Maps extracted from USFS Climate Change Tree Atlas (http://www.nrs.fs.fed.us/atlas/tree/tree_atlas.html).

Accomplishments: Selected information products

- Input to National Climate Assessment *Chapter 12. Impacts of climate change on tribal, indigenous, & native lands & resources*
- *Shifting Seasons: Great Lakes climate change summit report & findings*, College of Menominee Nation

- National Climate Assessment - Forest Indicators System
- *A guide for tribal leaders on U.S. climate change programs & funding opportunities* http://envs.uoregon.edu/tribal-climate/
- Voggesser et al. 2013. *Cultural impacts to tribes from climate change influences on forests*. Climatic Change March 2013, http://link.springer.com/article/10.1007/s10584-013-0733-4

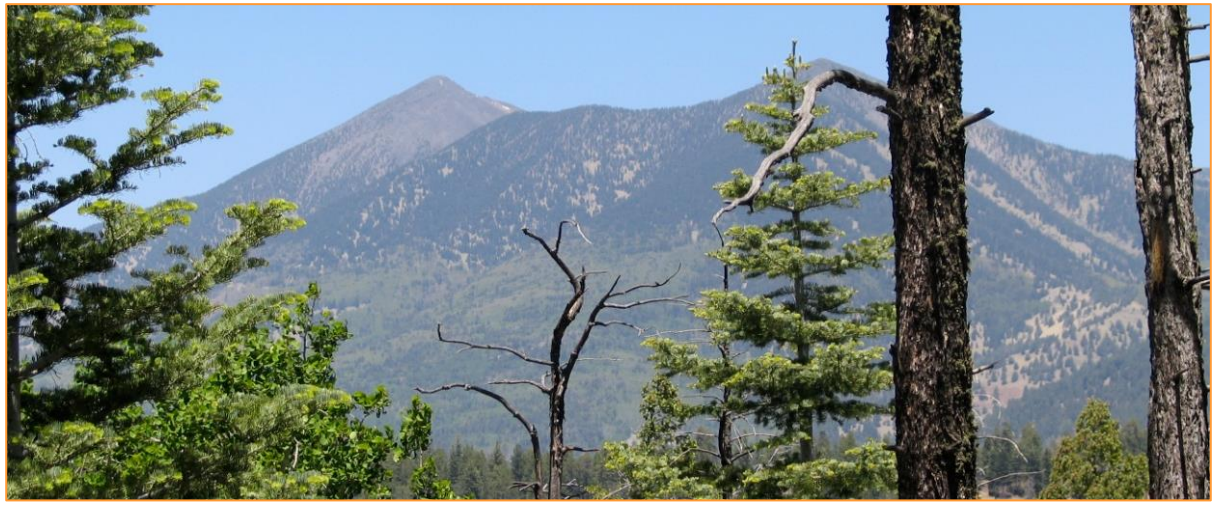
Accomplishments: Support for Native participation

- Partnered with
  - > 80 tribes
  - > 20 intertribal or Native orgs
- > 20 Native students supported
- Travel to CC events > 60 tribal & Native partners covered

Prof. Robin W. Kimmerer (Citizen Potawatomi). Photo used by permission.

Future opportunities

- Identify long-term ecological datasets & develop accessible user interfaces for tribal leaders & natural resource professionals
- *NATIVE CITIZEN SCIENCE IN A TIME OF CLIMATE CHANGE:* Phenology network design to meet the needs of indigenous peoples in the United States



The San Francisco Peaks, sacred to many Southwestern Native American groups. Photo used by permission: Carol Raish.

Thank you!

Marla R. Emery, National Coordinator (NRS)
Mike Dockry, Northern Research Station
David Flores, Rocky Mountain Research Station
Christian Giardina, Pacific So. West Research Station
Linda Kruger, Pacific No. West Research Station
Frank Lake Pacific, So. West Research Station
John Schelhas, Southern Research Station
Alan Watson, Rocky Mountain Research Station

Factsheets available at http://www.fs.fed.us/ccrc/fact-sheets/, "*Tribes and Climate Change*".