

# **Climate Change & America's Infrastructure**

## **Native American Perspectives**



**Ann Marie Chischilly, Esq.**

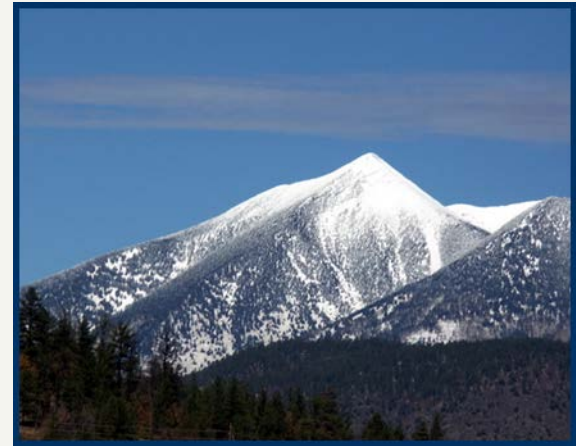
**Executive Director**

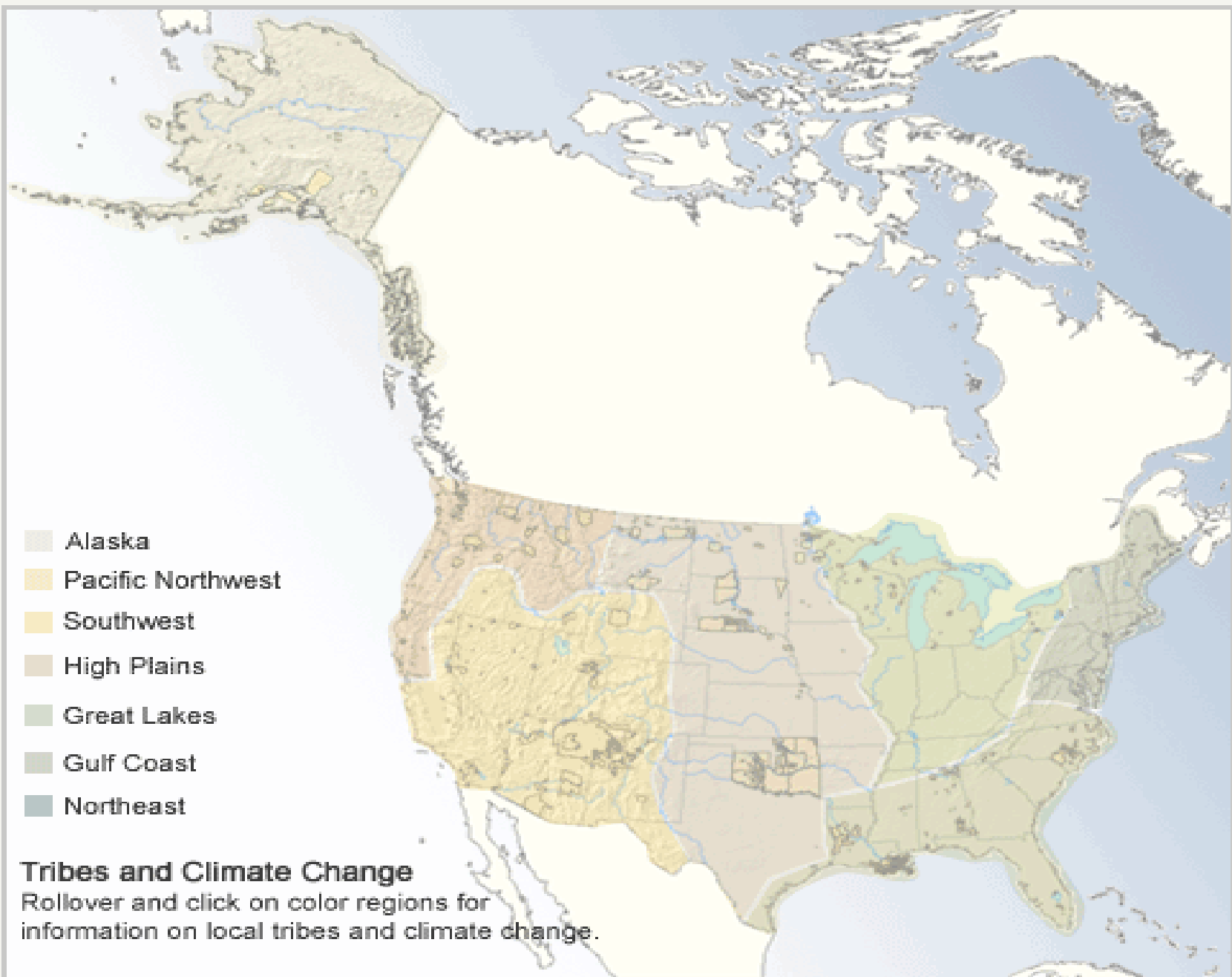
**Institute for Tribal Environmental Professionals  
(ITEP)**

**January 29, 2013 – Phoenix, AZ**

# Regional Impact on tribes

- 566 tribes and Alaskan Native Villages (ANV) nationally
- Disproportionate impact on tribes and ANV
  - Defined boundaries
  - Sacred boundaries/sites
  - Subsistence living
  - Lack of adequate health facilities
  - Economically declined
- Damage to roads, water supply, sanitation systems, homes, schools and ice cellars





# 31 ANVs Relocation



Source: 2004 GAO report, pg. 18

# Kivalina, Alaska

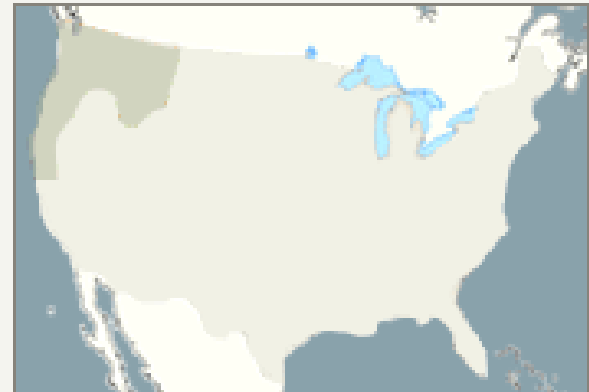


*Rock revetment project, Kivalina, Alaska. Source: Millie Hawley, Manager Kivalina Environmental Program*

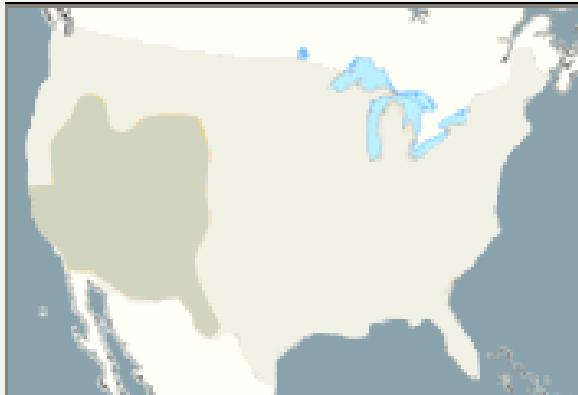
- 2009, GAO reported 12 of 31 communities has decided to relocate
- US Army Corps of Engineers estimated relocation of Kivalina is \$95-125M
- 400 residents
- Need state and government support
- Permafrost melting - erosion

# Pacific Northwest tribes

- Salmon: cultural lifeblood of this region has declined 90%
- Other animals such as orca whales and shellfish
- Ocean acidification
- Forest loss
- Aquatic damage
- Regional flooding increased



# Southwest tribes

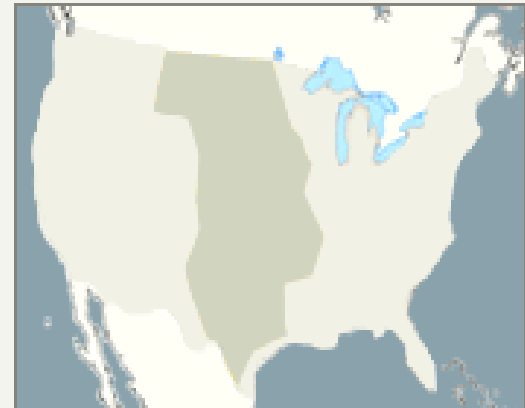


- Longest drought on record
  - Water quality v. water quantity
  - No Infrastructure in many locations
- Extreme Wildfires
- Land Use Issues
  - Navajo Nation Sand Dunes Studies
  - Cattle & Agriculture
- Environmental v. Energy issues
  - Navajo Generating Station
  - Solar & Wind renewable energy



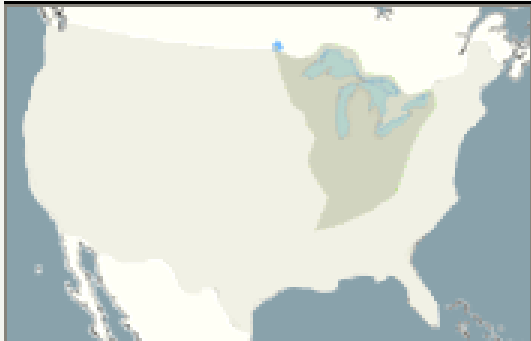
# Plains tribes

- Combination of drought & flooding
  - Crow Nation – flooding
  - Oklahoma tribes – drought
    - Cattle industry
  - Extreme wildfires
- Northern Cheyenne Tribe of Montana – EPA Showcase
  - Building - Reduce GHG
  - Serve as a model for other tribes
  - Developing new models for infrastructure/construction





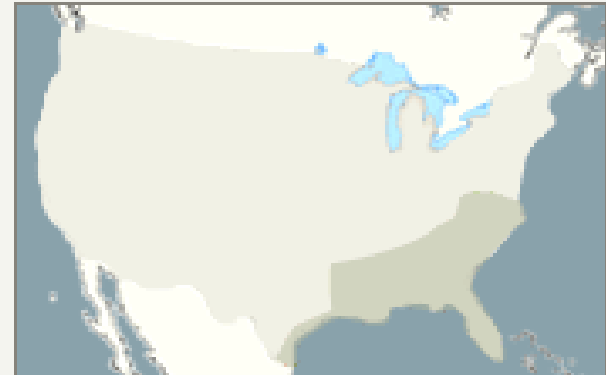
# Great Lakes tribes



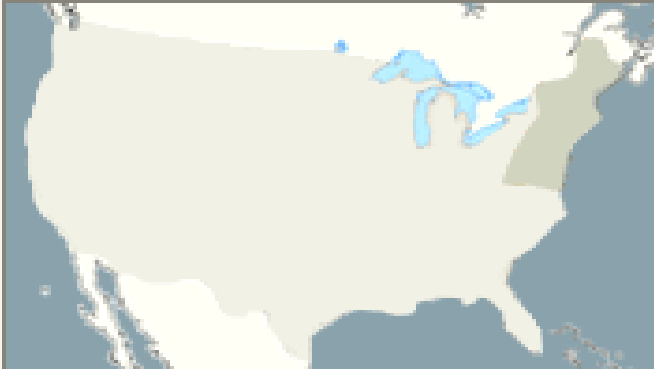
- Fishing, Hunting and Gathering
- Warmer Climate
- Flooding & Drought
  - Threats of invasive species
  - Lost of moose and deer population
  - Harmful to wild rice production
  - Threats to fisheries
- Sustainable Food Initiatives
  - Reduce reliance on imported foods cuts carbon footprint

# Gulf Coast tribes

- Isle de Jean Charles vanishing by rising sea level: Biloxi-Chitimacha-Choctaw Indians
- Intense storms
- Rising Tides
- Land Erosion
- Destruction of wetlands/food sources
- ACOE proposed to re-locate but dropped w/o full tribal support



# Northeast tribes



- October 2012-Super Storm Sandy
  - Rhode Island: Narragansett Indian Tribe
  - Southampton: Shinnecock Indian Tribe
  - Connecticut Tribes
- Haudenosaunee Nation (NY)
  - Sustainable Living: integrated approach
  - Heirloom Food program
  - Land stewardship
  - Youth Corp Program

# ITEP Program

## Climate Change Program

- Climate Change Adaptation Planning
  - Educate their Leadership
  - Mitigation Techniques
  - Networking
- Tribal Climate Change Profiles
- Traditional Ecological Knowledge (TEK)
- National Assessment
  - Chapter 12-Tribes
- First Stewards Org.



# ITEP Program

## Environmental Education Outreach Program:

### K-20

- Reached over 45,000 Native Students & Teachers
- Climate Change training
- All Environmental mediums
- Fieldtrips
- Internships
- Tribal locations nationally
- DOE Lawrence Livermore National Lab

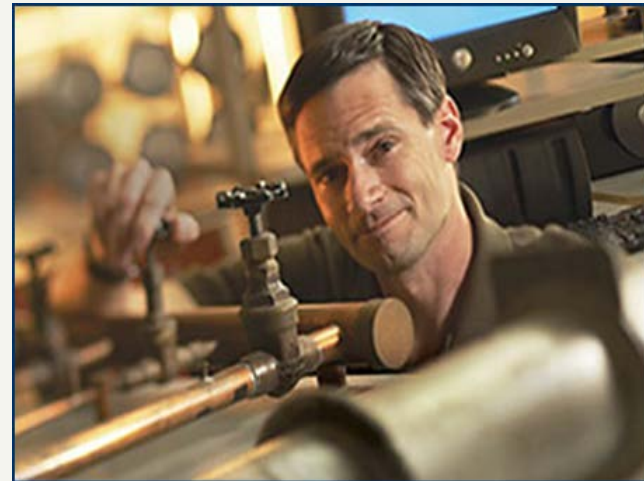




# ITEP Program

## Tribal Clean Energy Resource Center (TCERC)

- Tribal Leaders Advisory Board
- NAU Partners
- Industry Partners
- National Lab Partners
- Services
  - Strategic Energy Planning
  - Technical Assistance
  - Policy Analysis
  - Business Planning
  - Internships
  - Professional Development
  - Prepare Native American students







# Contact Info



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[www4.nau.edu/tribalclimatechange/](http://www4.nau.edu/tribalclimatechange/)  
[www4.nau.edu/itep/](http://www4.nau.edu/itep/)