

Climate Change: EPA National and Regional Issues

Quarterly Webinar for Alaska Tribes

November 6th, 2013

Outline

- President's Climate Action Plan.
- President's Executive Order on Climate Preparedness.
- EPA Region 10 Adaptation Plan.
- Discussion how to work together on climate change.

The Climate is Changing

It's changing at an increasingly rapid rate...

**Outside the range to which society has adapted in the
past...**

 **The past is no longer a good predictor of the future**

Climate Change and EPA's Mission

- Clean air, water, and land are sensitive to changes in climate.
 - EPA assumed future climate will mirror past climate; past not a good predictor of the future.
 - **EPA must adapt. It must anticipate and plan for future changes in climate.**
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The Myth of Stationarity Meets the Death of Stationarity

Muir Glacier in Alaska



Aug, 13, 1941



Aug, 31, 2004

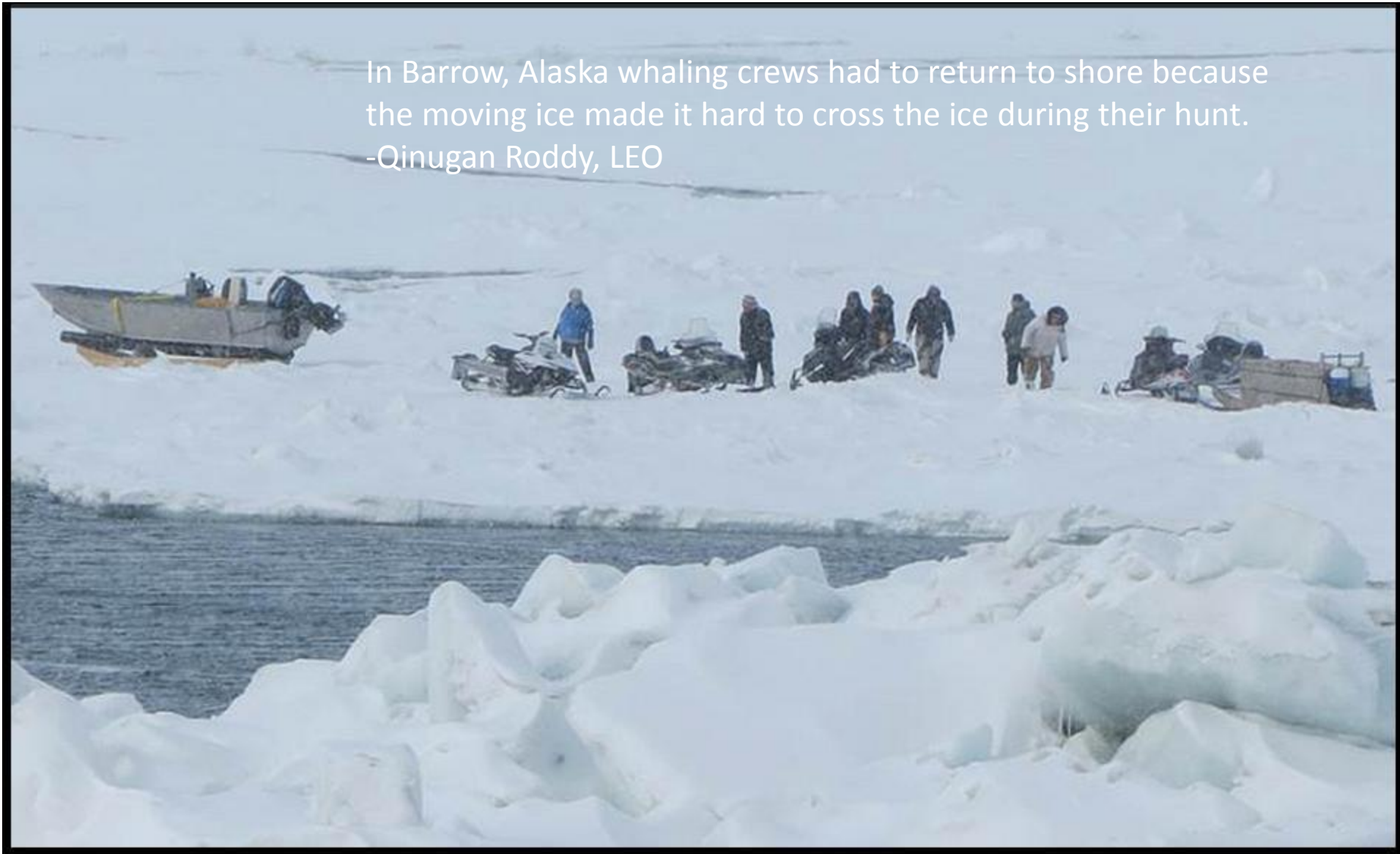
Image Credit: *National Snow and Ice Data Center, W. O. Field, B. F. Molnia*
http://nsidc.org/data/glacier_photo/special_high_res.html



In Golovin, Alaska a huge storm caused damage to subsistence fishing camps. The sea ice went up several hundred feet up on the shore and destroyed the closest berry picking and beach green harvesting areas.

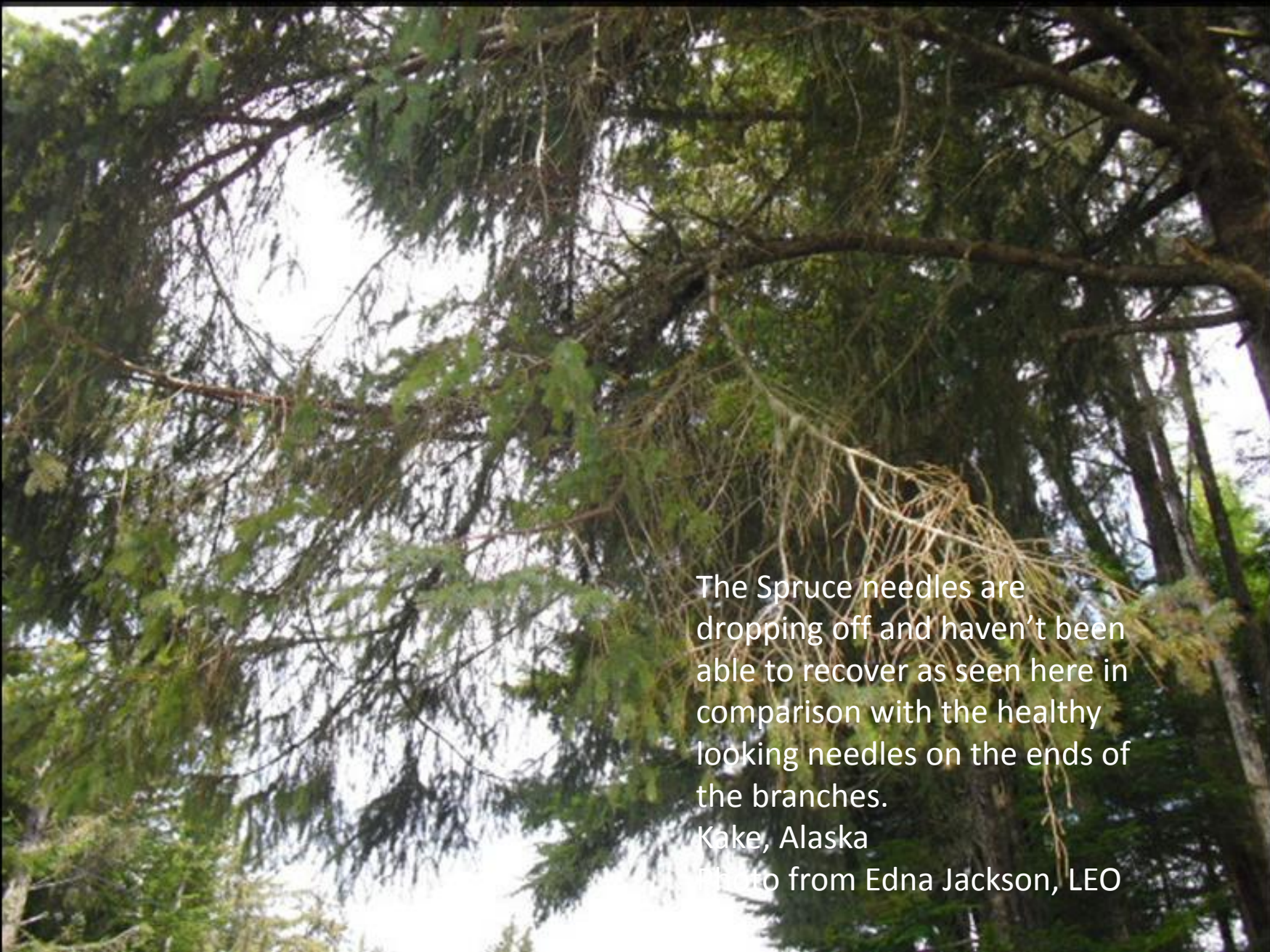
-Toby Anungazak Jr., LEO

In Barrow, Alaska whaling crews had to return to shore because the moving ice made it hard to cross the ice during their hunt.
-Qinugan Roddy, LEO





In Golovin, Alaska the permafrost is melting
and has caused the land to cave in.
-Carol Oliver, LEO



The Spruce needles are dropping off and haven't been able to recover as seen here in comparison with the healthy looking needles on the ends of the branches.

Kake, Alaska

Photo from Edna Jackson, LEO

Sources of Greenhouse Gases



January 2053...

I DON'T CARE WHAT THEY SAY,
THIS GLOBAL WARMING SCARE
IS JUST A BUNCH OF LOONY
LEFT-WING ENVIRONMENTALIST
ANTI-GROWTH HYPE!

SO,
IS THIS
YOUR FIRST
WINTER HERE
IN JUNEAU?





THE PRESIDENT'S CLIMATE ACTION PLAN

Executive Office of the President

June 2013



“While no single step can reverse the effects of climate change, we have a moral obligation to future generations to leave them a planet that is not polluted and damaged.”

President Obama, June 25, 2013.

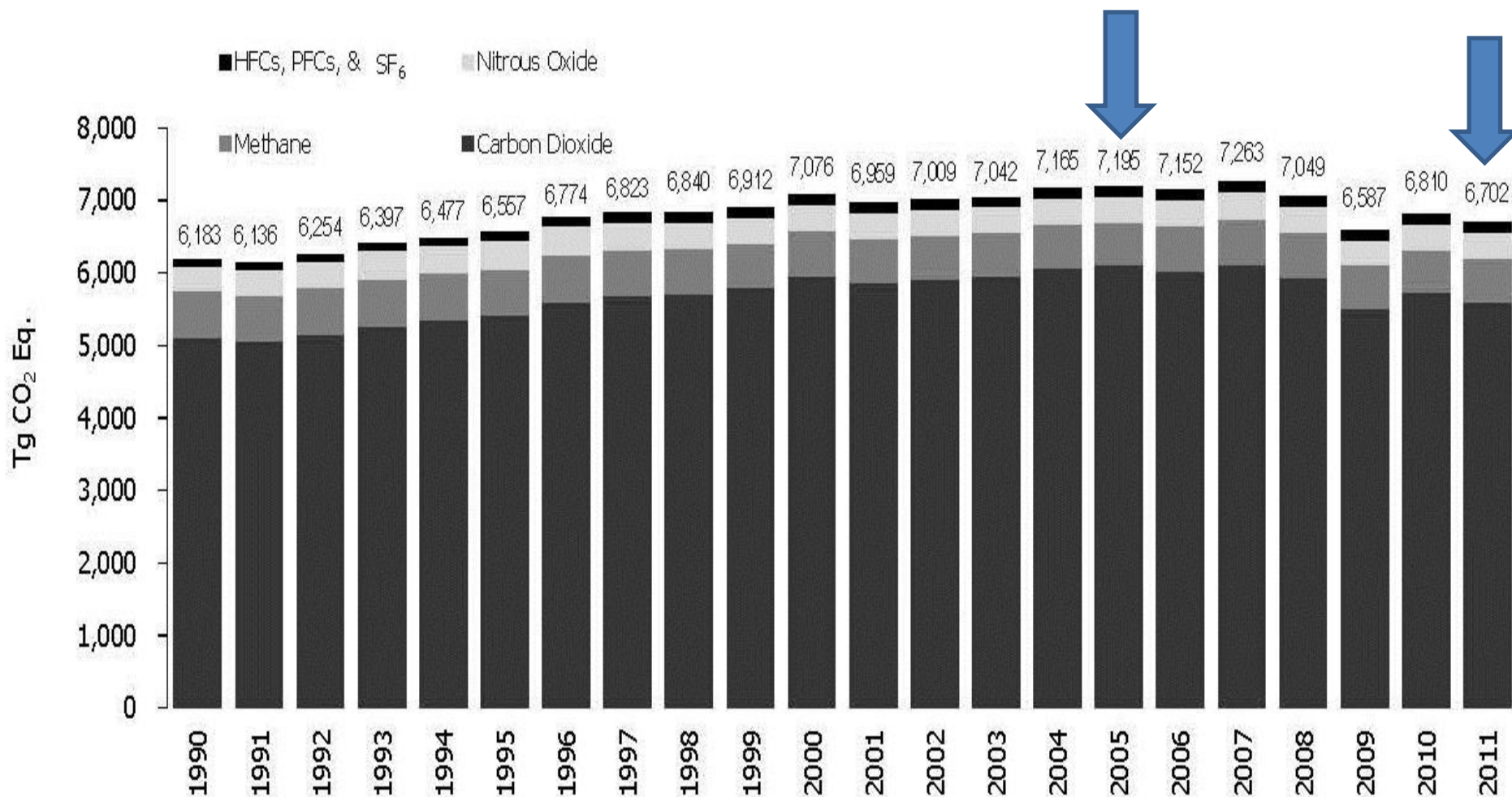
President's Climate Plan – 3 Components

- Cut carbon pollution.
- Prepare/adjust to impacts of climate change.
- Lead international effort to address climate change.

Cut Carbon- 4 Areas

- Address emissions from new and existing power plants.
- Build a better transportation sector.
- Cut energy use in homes, businesses, and factories.
- Reduce methane and HFC emissions.

US Cut CO2 emissions by 7% since 2005



Cut Carbon

- New Power Plants: New proposal in September.
 - 2 million comments on April 2012 proposal.

- Existing Power Plants: June 2014
 - Collaborative Process

Transportation

- GHG/fuel economy standards: model years 2012-2025, require average of 54.5 mpg in 2025
- GHG standards for heavy- and medium-duty trucks for model years 2014-2018

Methane and HFCs

- **Methane**
 - Warming potential 20 times greater than CO₂
 - Concern in Alaska; permafrost.
 - Develop Methane strategy.

- **Hydrofluorocarbons (HFCs)**
 - HFCs are potent greenhouse gases.
 - Increase due to phaseout of ozone depleting substances and increased use of air-conditioning.

Executive Order: Resilient Communities

- Remove barriers to support community investment.
- Change land/water management policies.
- Provide information, data, and tools.
- Implement National and Regional Adaptation Plans.

Executive Order: Task Force

- Form Local and Tribal leaders task force.
 - Region 10: WA Governor Jay Inslee and Mayor Reggie Joule Northwest Arctic Borough.

- Provide recommendations to President on items in Slide 21.

Regional Adaptation Plan

- June 2011: EPA Policy Statement on Climate Change Adaptation
- January 2013: EPA National Adaptation Plan.
- June 2013: EPA Regional Office Adaptation Plans.
- November 2013: Plans out for public comment.

Regional Plan: Overview

- Summarizes current climate impacts on Region.
- Identifies vulnerabilities/impacts from climate change.
- Identifies **existing actions** to address vulnerabilities/impacts.
- Potential **future actions** will be addressed later.

Identified Vulnerabilities/Impacts

- **Permafrost thawing**
 - Threat to water/sanitation infrastructure; access to clean drinking water and increased risk from exposure to solid/human waste.
- **Sea ice melting**
 - Threatens food security due to reduced access to water resources.
- **Increased health impacts**
 - Lack of access to traditional foods, changes in air quality, stress.
- **Increase in ocean temperature and acidification**
 - Impacts on fisheries and organisms play integral role in food web.

Identified Vulnerabilities/Impacts

- **Impacts to salmon from changing ocean/stream conditions.**
 - Impacts to other species are identified, but Salmon are essential to health and wellbeing of Tribes throughout Region 10.
- **Rising sea levels**
 - Increased erosion of shorelines threatens communities.
- **Increased risks from flooding and erosion**
 - Inundation of coastal artifacts, exposure of burial sites, loss of cultural use plants.

EPA Tribal Engagement

- Comments on Implementation Plans (webinar).

<http://epa.gov/climatechange/impacts-adaptation/fed-programs/EPA-impl-plans.html>

- Build Capacity.
- Resources.
- Awareness, education, and training.
- Vulnerability assessment and adaptation plans.

Discussion

What is the best mechanism to engage with Tribes to identify future actions that are needed to adapt to climate change?

Contacts

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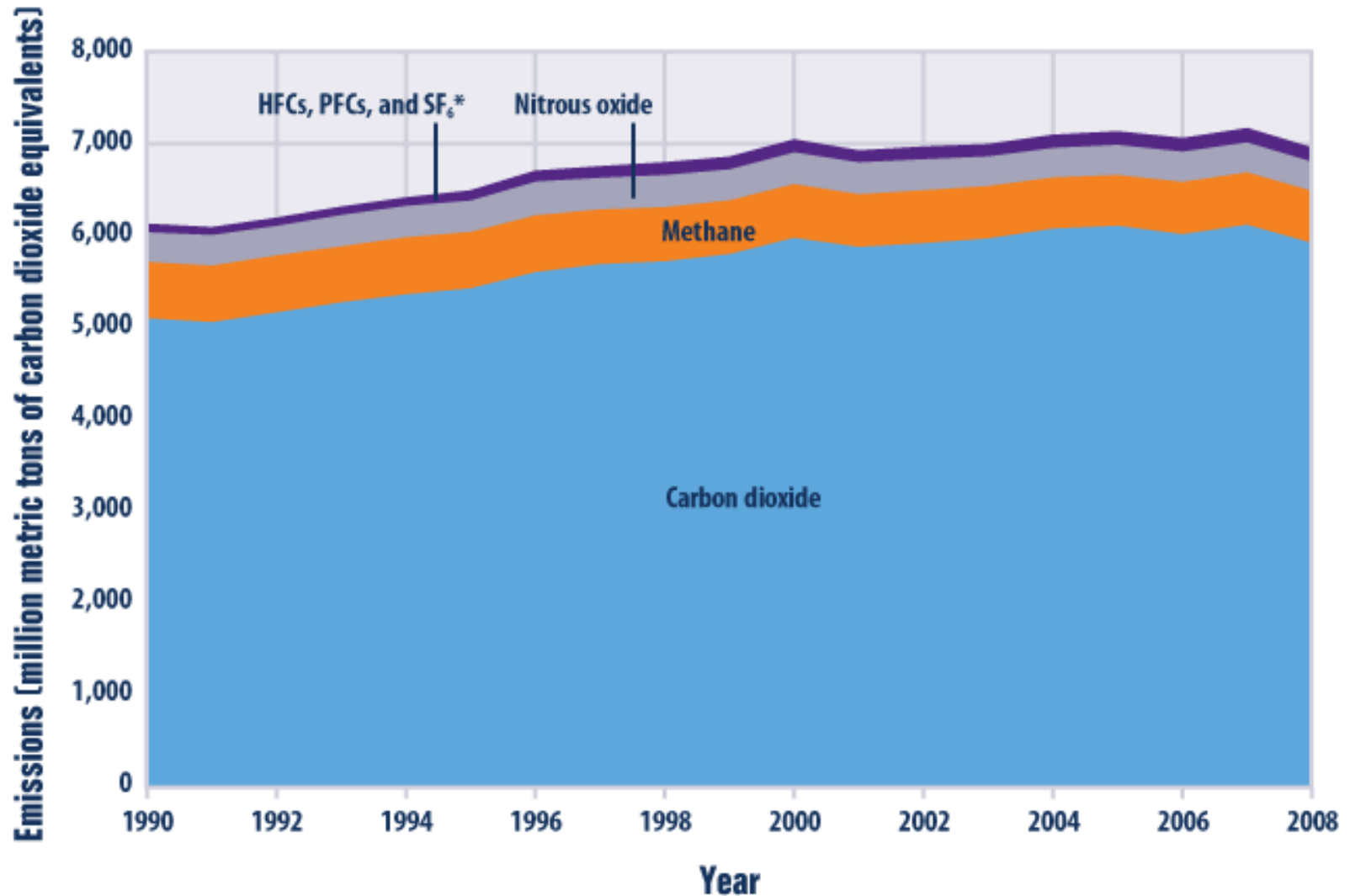
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Link to EPA Adaptation Implementation Plan:

<http://epa.gov/climatechange/impacts-adaptation/fed-programs/EPA-impl-plans.html>

U.S. Greenhouse Gas Emissions



*Data from EPA GHG Inventory (2010)

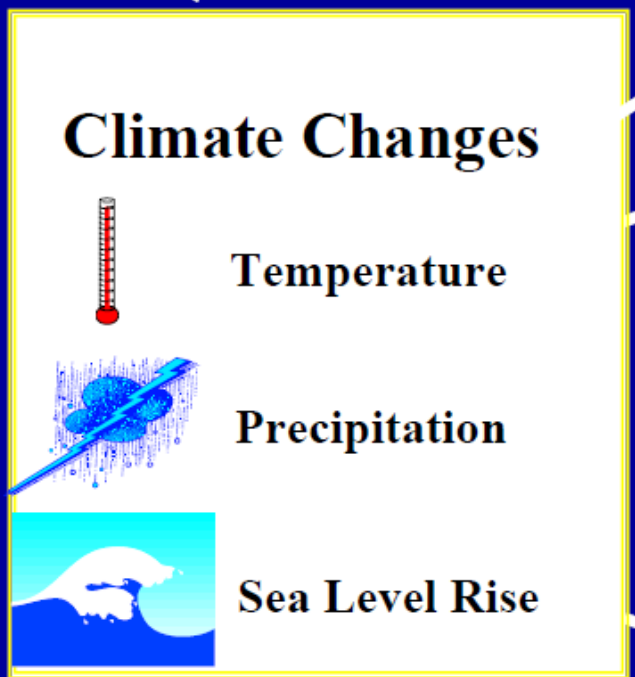
*GHG emissions have increased in the U.S. by 14% since 1990

Climate Change is Affecting Human Health and the Environment



Infrastructure

Water
Transportation
Energy Supply & Use



Health

Weather-related Mortality
Infectious Diseases
Air Quality -Respiratory Illnesses



Agriculture

Crop yields
Irrigation demands



Forest

Change in forest composition
Shift geographic range of forests
Forest Health and Productivity



Water Resources

Changes in water supply
Water quality
Increased competition for water



Coastal Areas

Erosion of beaches
Inundate coastal lands
Costs to defend coastal communities



Wildlife and Ecosystems

Shift in ecological zones³⁰
Loss of habitat and species³⁰
Damage to Coral Reefs

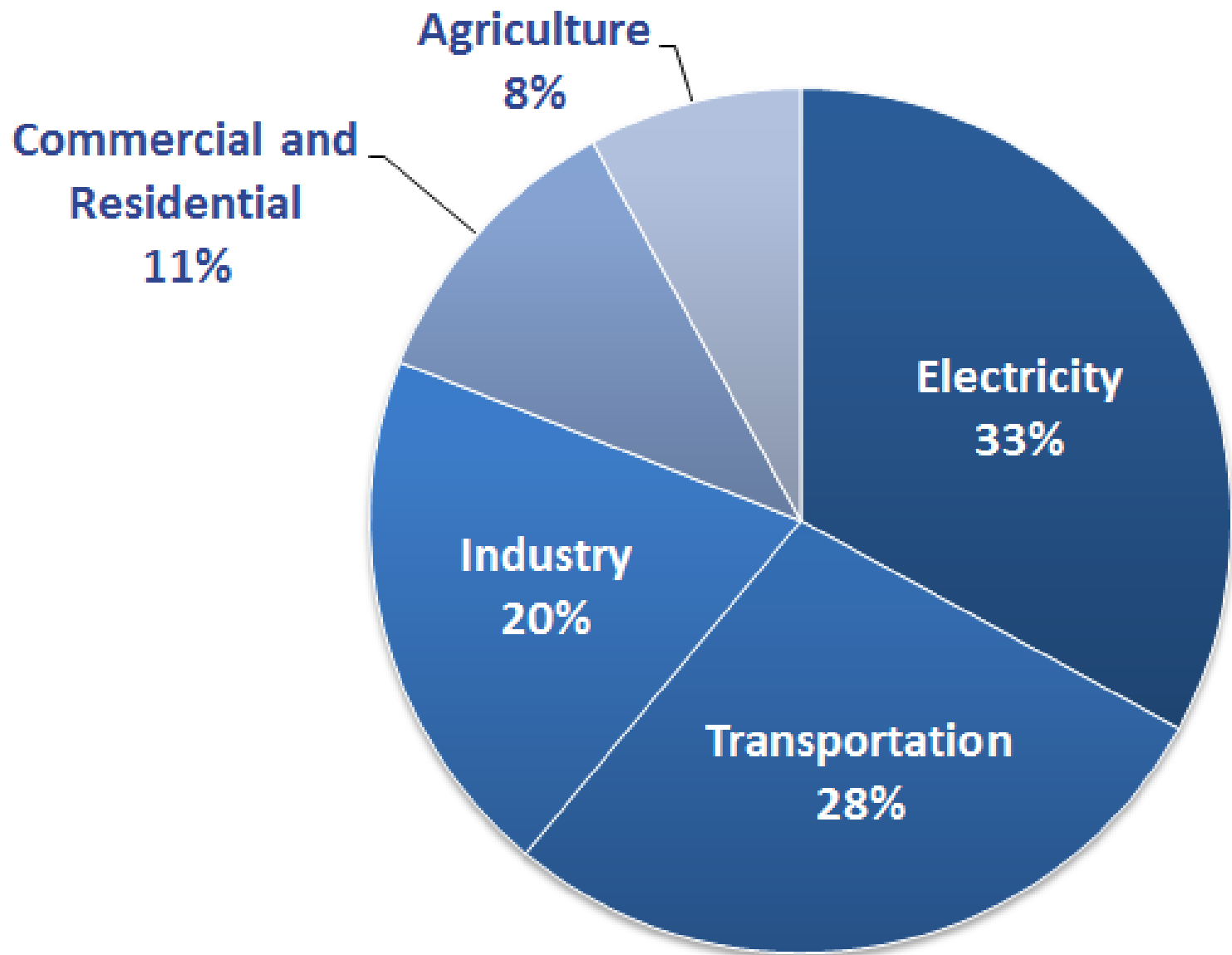


Cultural Resources

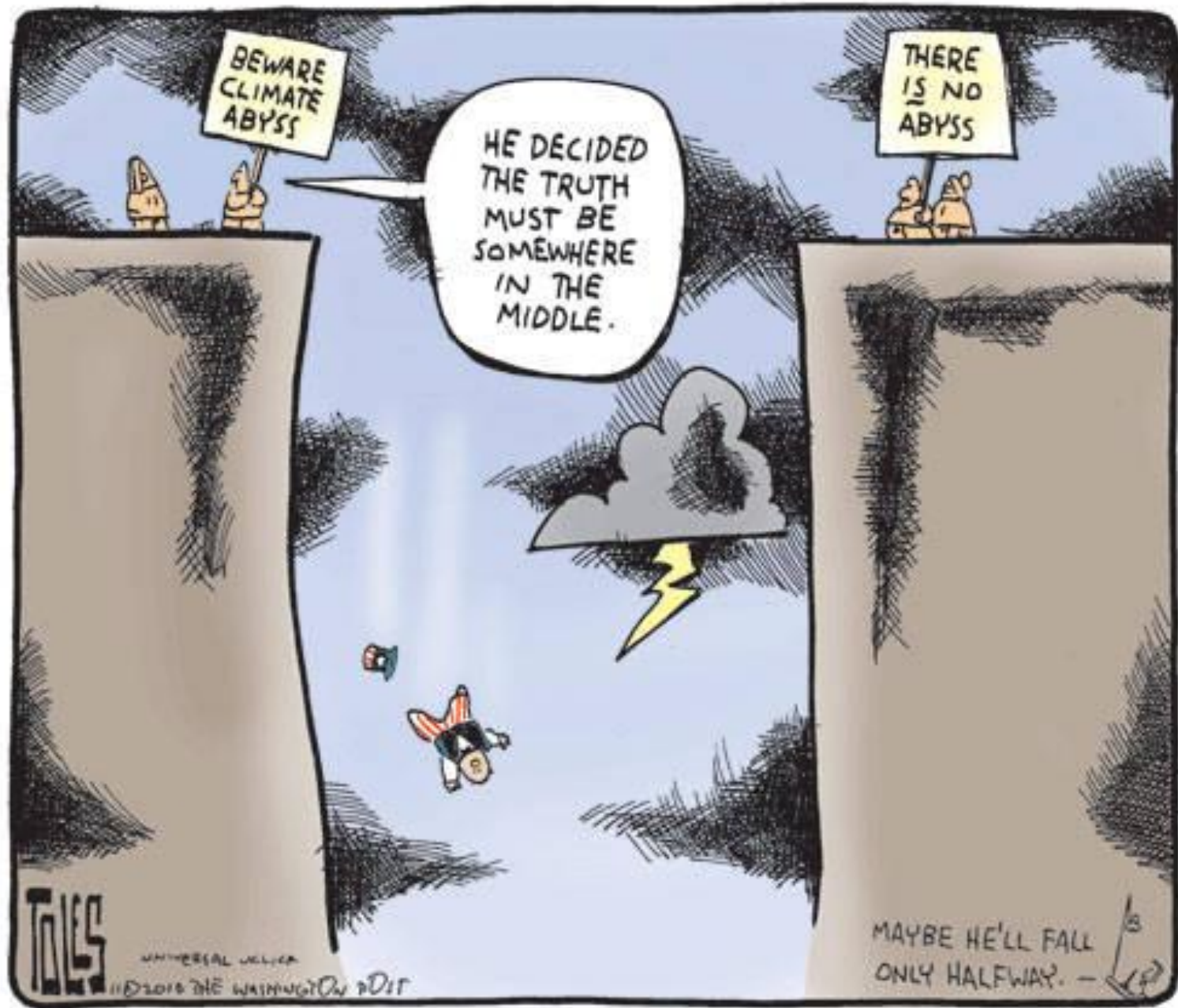


Economic Disruption

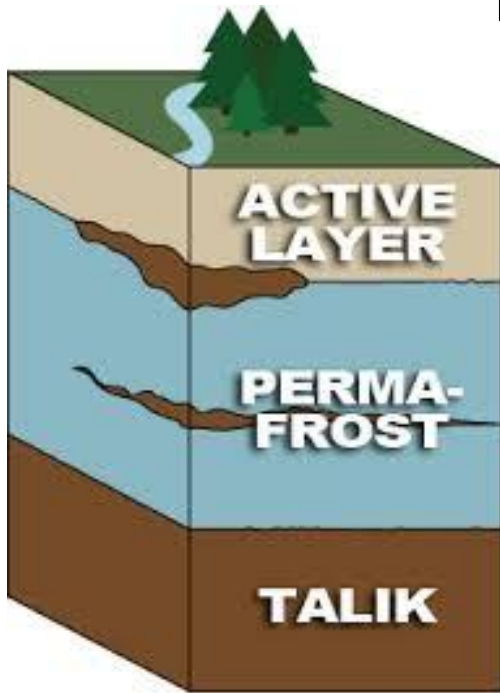
US Greenhouse Gas Emissions by Source



Source: USEPA, 2013



Permafrost Thawing



Sea-Ice Melting



International/National Assessments

- Fifth Intergovernmental Panel on Climate Change (Fall 2013).
- Third US National Climate Assessment (Early 2014).
- Northwest Chapter.



NOAA Technical Report NESDIS 142



Regional Climate Trends and Scenarios for
the U.S. National Climate Assessment

Washington, D.C.
January 2013

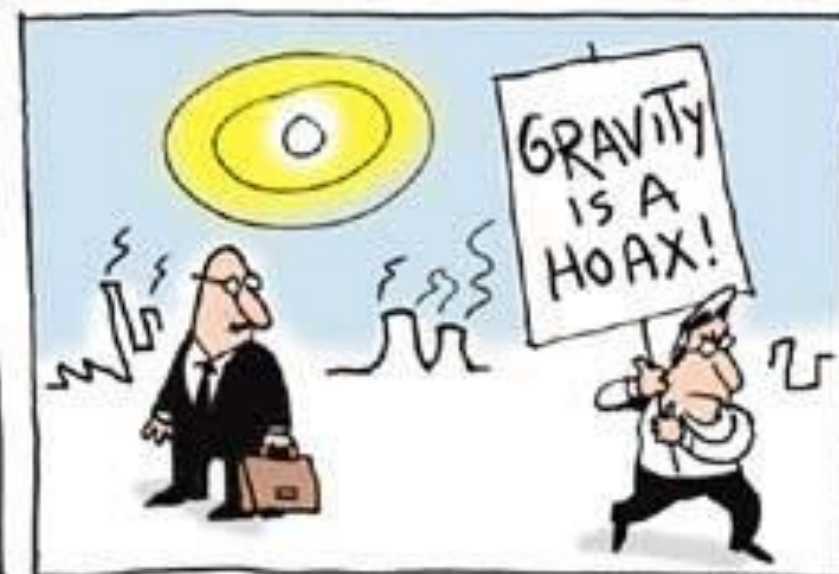
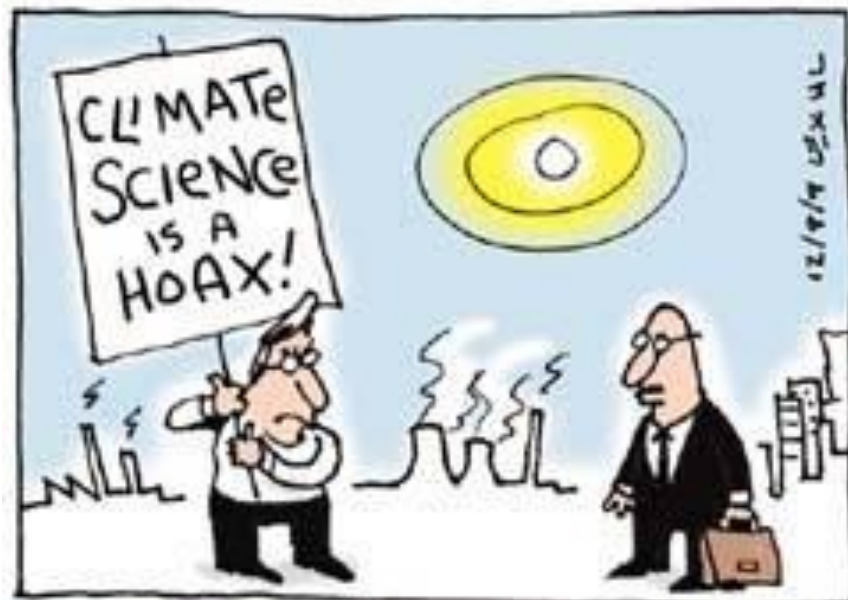


U.S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
National Environmental Satellite, Data, and Information Service

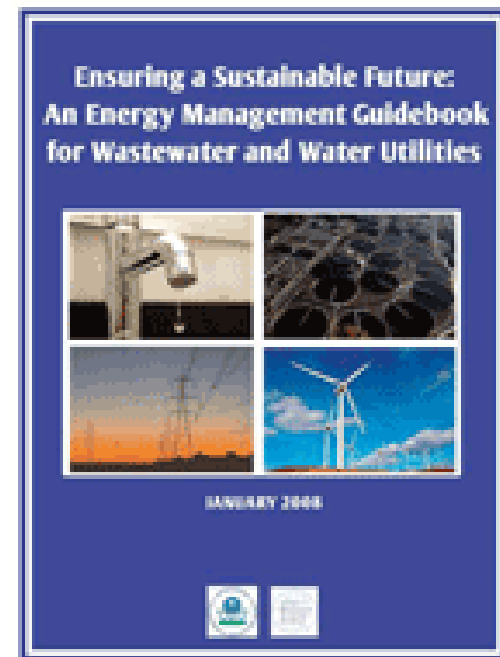
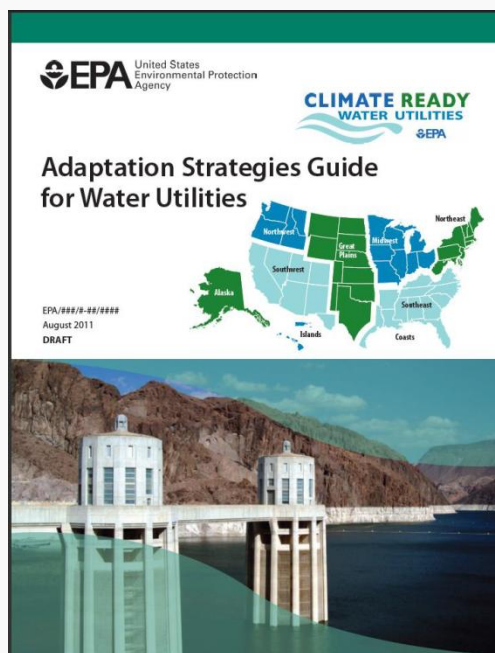
Cut Carbon - Regional

- ~ 1% of national emissions of GHG from power plants in Region 10.
- WA/OR set greenhouse gas reduction and renewable energy targets.
- 57 mayors signed agreement to cut carbon pollution (34 Washington, 16 Oregon, and 7 Idaho).

JOEL PETT
LEXINGTON HERALD-LEADER



EPA Tools

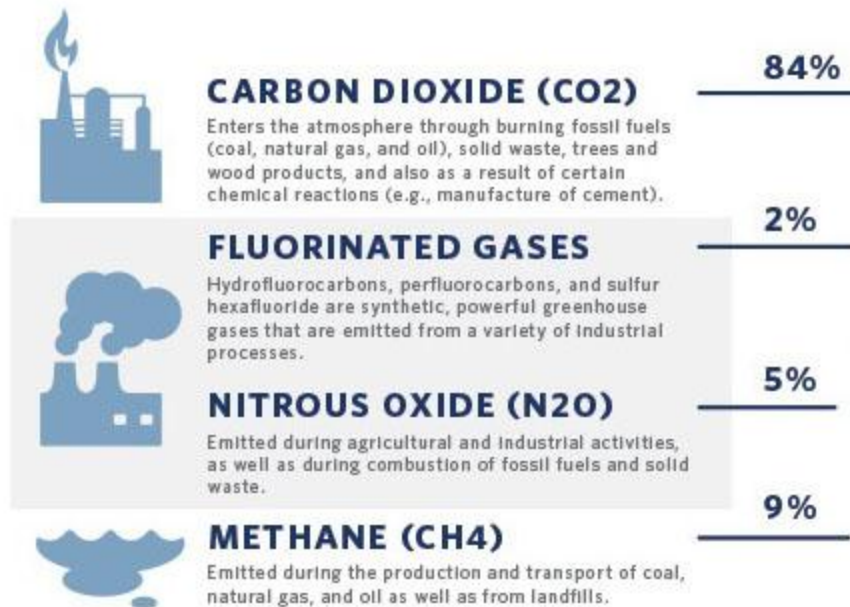


Adapt to Changing Climate

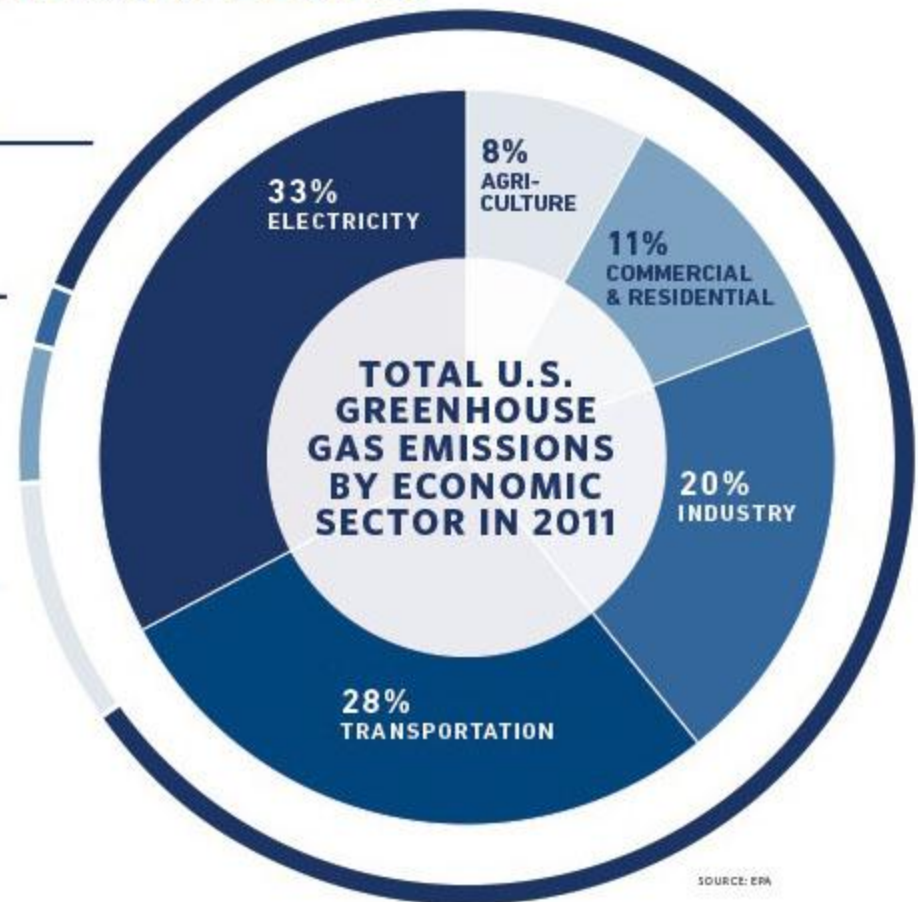
- Efforts by society to prepare/adjust to future climate change.
- Adaptation not as far along as mitigation.
- Draft EPA National/Regional Adaptation Plans.
- Many communities have developed plans in Region.

CARBON POLLUTION IS THE BIGGEST DRIVER OF CLIMATE CHANGE

U.S. GREENHOUSE GAS POLLUTION INCLUDES:



SOURCE: EPA



SOURCE: EPA

Next Steps

- Incorporate feedback from webinars and RTOC into Adaptation Plan
- Establish engagement process with Region 10 Tribes to identify potential **future actions** to adapt to climate change.
- Work with Tribal Organizations, such as ITEP to identify Tribal concerns and continue to work with existing networks such as the PNW Climate Change Tribal Network.
- Share Tribal concerns and input with EPA National Programs.