



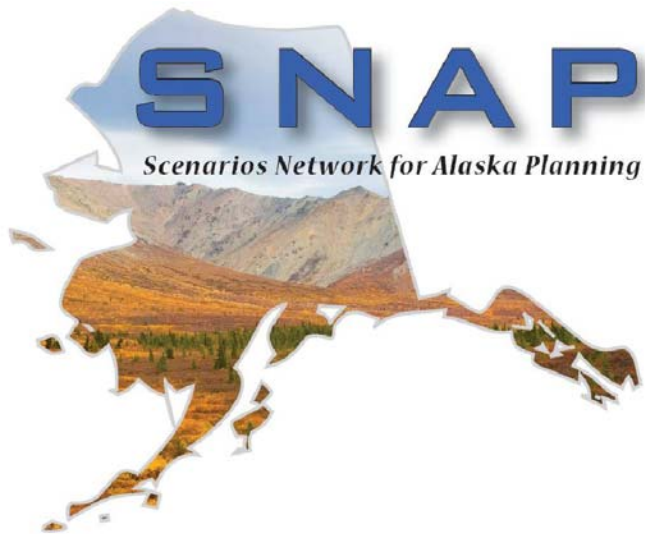
Climate Change and Fire in Alaska

Sarah F. Trainor

Coordinator, *Alaska Center for Climate
Assessment and Policy*

Stakeholder Liaison, *Scenarios Network for
Alaska Planning*





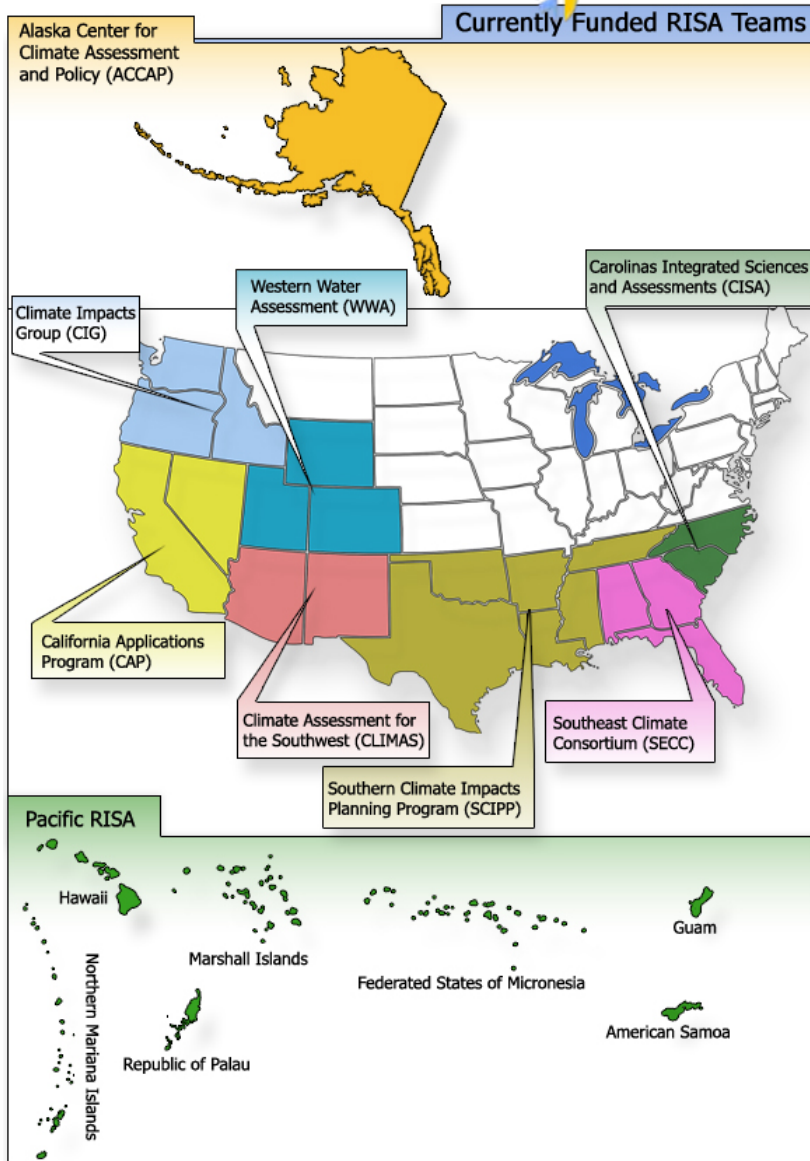
SNAP is a collaborative network of the University of Alaska, state, federal, and local agencies, NGOs, and industry partners.

Its mission is to provide timely access to scenarios of future conditions in Alaska for more effective planning by decision-makers, communities, and industry.

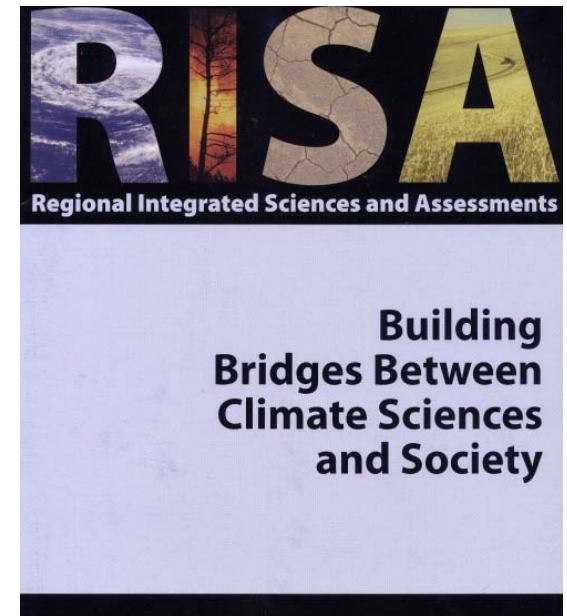
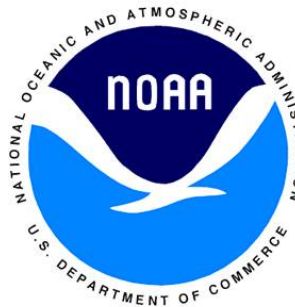




ACCAP
Alaska Center for
Climate Assessment & Policy



How can we improve the link between climate sciences and society?



http://www.climate.noaa.gov/cpo_pa/risa/



Projections of Future Conditions

- Average Summer Temperatures
 - Can expect increasing temperatures
 - Yukon Flats Hot Spot in the Interior
- Maps (video)



Projections of Future Conditions

- Fire
 - Past Fires: Areas around Ft. Yukon, Chalkyitsik & Tanana some of the most densely burned in the state
 - Models project more frequent large fire years and more area burned.



Projections of Future Conditions

- Vegetation

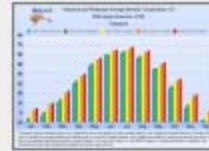
Models project state-wide:

- increase in deciduous and
- decrease in black and white spruce



Spotlight

Snap Delivers Climate Change Data to Public's Fingertips



Every community in Alaska now has access to climate change data focused on their own backyard, thanks to a new, user-friendly tool created by UAF's Scenarios Network for Alaska Planning... [read more »](#)

Objective data for people who make policy, management, and economic decisions

communities • transportation • coastlines • forests • resources • infrastructure

- Home
- SNAP Overview
- SNAP In-Depth
- News Archive
- Contact Info
- Partners & Affiliations

SNAP Projects

- Governor's Climate Change Subcabinet
- Boreal ALFRESCO
- All Projects

Maps & Data

- Web-based Maps
- Google Earth Maps
- GIS Data

Community Charts

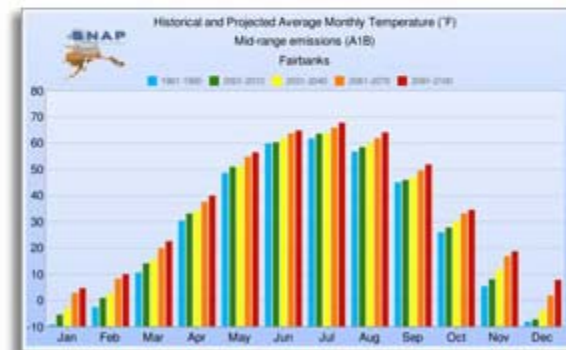
Documents

- Presentations
- Reports
- Publications

Home » Community Charts

Community Charts

Select your community and compare projected future climate results under three scenarios of future greenhouse gas emissions.



Choose Your Community

Filter the list:

- [Adak](#)
- [Afognak](#)
- [Akihiok](#)
- [Akiachak](#)
- [Akiak](#)
- [Akutan](#)
- [Alakanuk](#)
- [Alatna](#)
- [Aleknagik](#)
- [Allakaket](#)
- [Ambler](#)
- [Anaktuvuk Pass](#)
- [Anchor Point](#)

Community Charts: Fort Yukon

[« change community](#)

Temperature

Precipitation

Future Greenhouse Gas Emissions:

[Low](#)

[Medium](#)

[High](#)



[Details](#)



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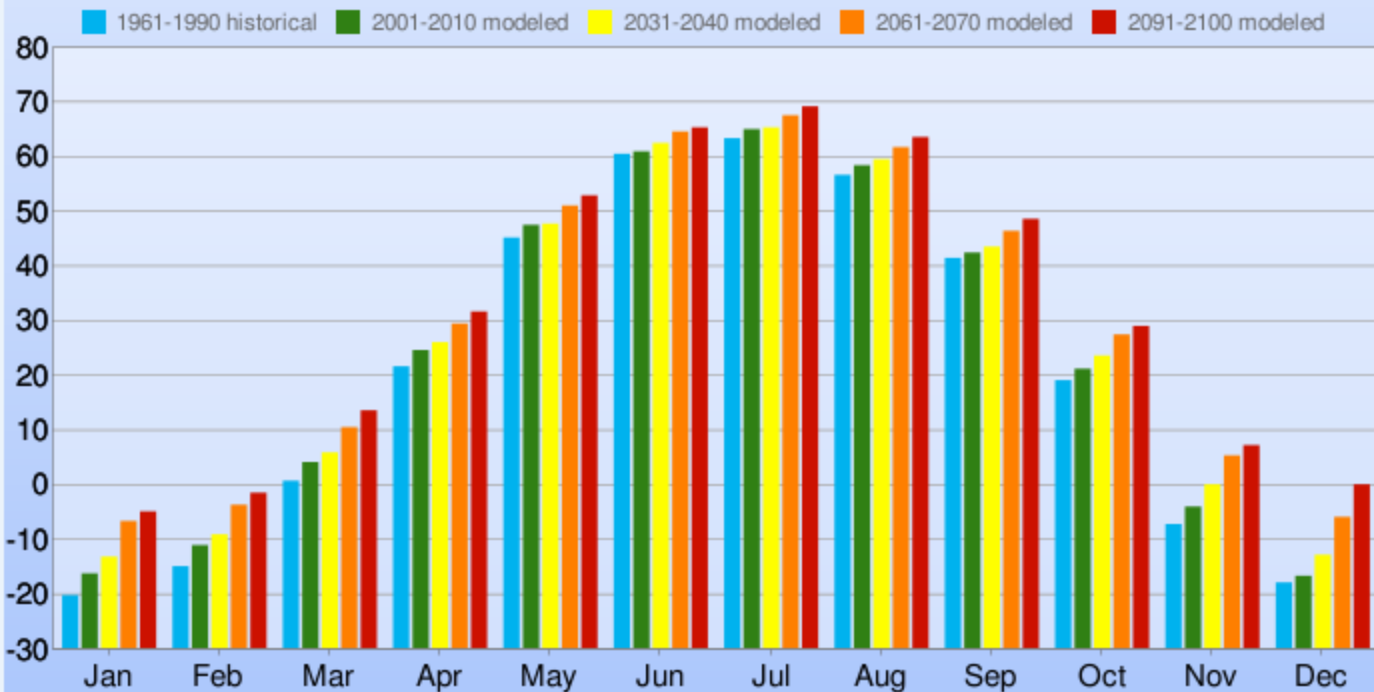
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Historical and Projected Average Monthly Temperature (°F)

Mid-range emissions (A1B)

Fort Yukon



This graph shows average values from projections from five global climate models used by the Intergovernmental Panel on Climate Change. Due to variability among models and among years in a natural climate system, such graphs are useful for examining trends over time, rather

Community Charts: Fort Yukon

[« change community](#)

Temperature

Precipitation

Future Greenhouse Gas Emissions:

[Low](#)

[Medium](#)

[High](#)



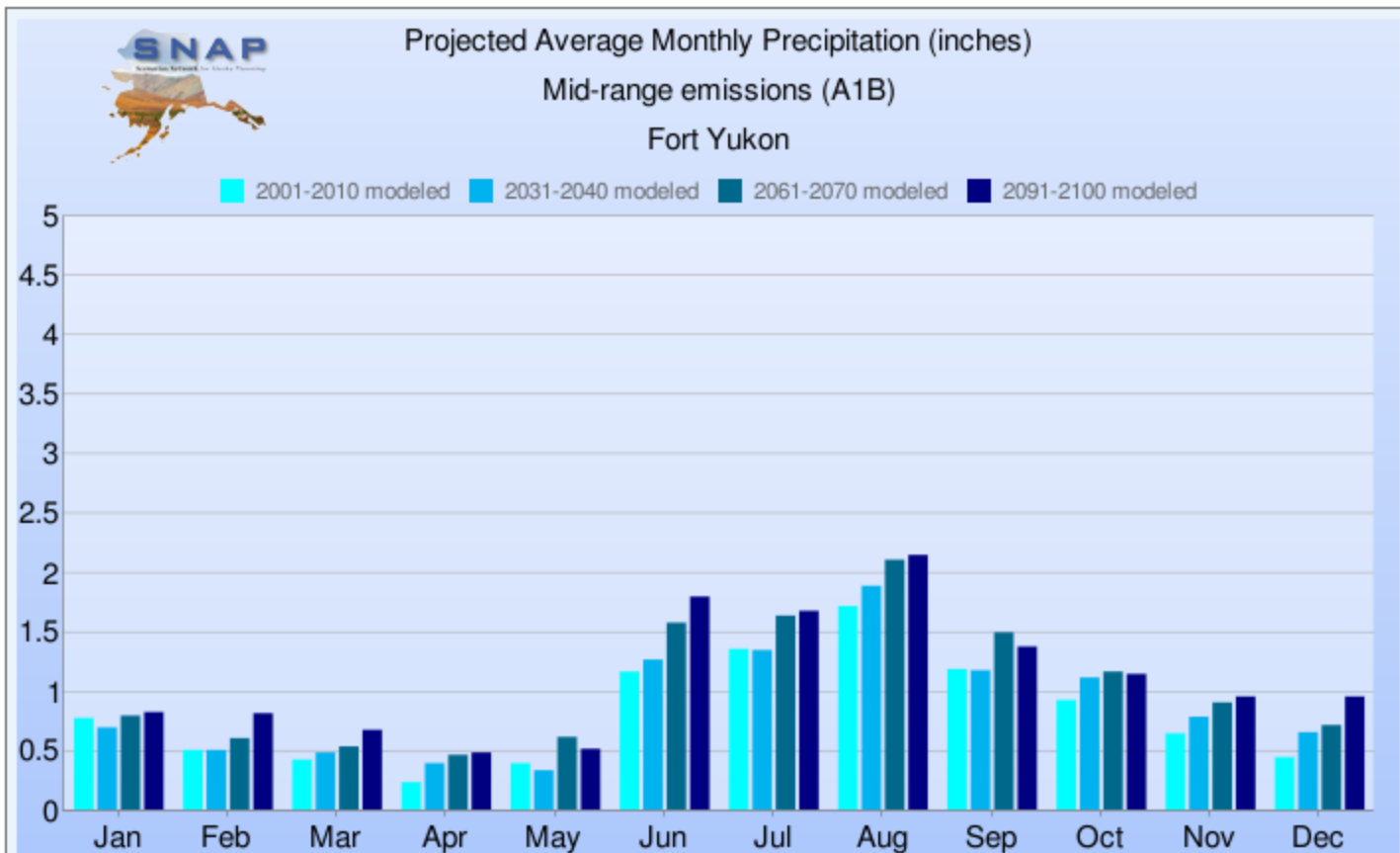
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This graph shows average values from projections from five global climate models used by the Intergovernmental Panel on Climate Change. Due to variability among models and among years in a natural climate system, such graphs are useful for examining trends over time, rather than for precise predictions.

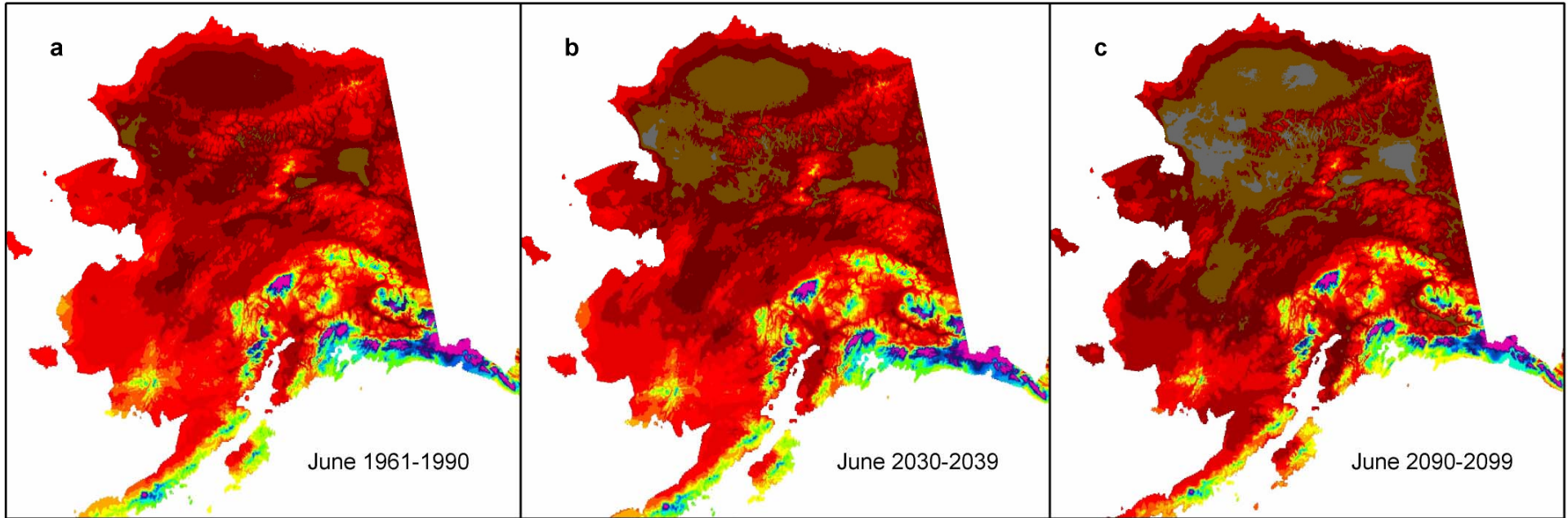
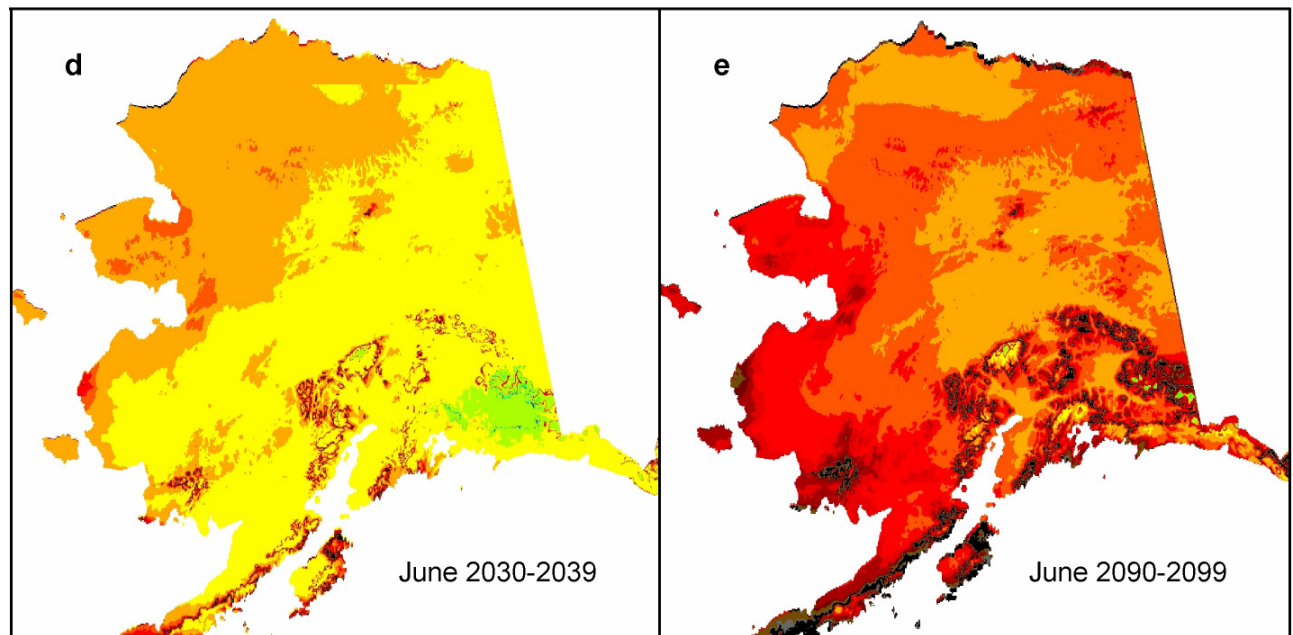


Figure 1. June water availability (P-PET) over the course of the next century (a,b,c).

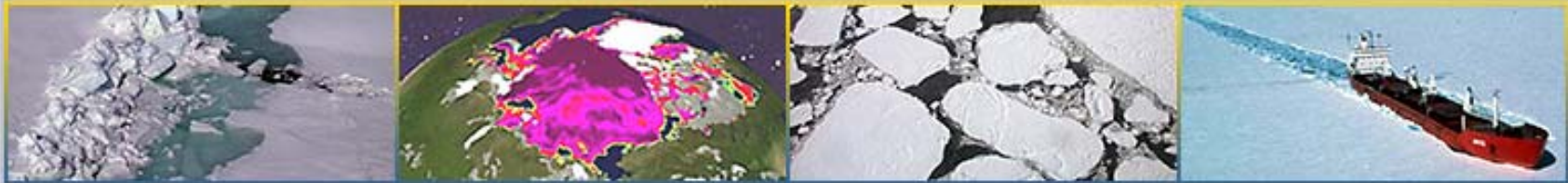
Percent change in P-PET from historic values (e,f).



Monthly Webinars/Teleconferences



SEARCH ACCAP:



Archive of Past Conferences

Tuesday, January 26, 2010

DECISION-MAKING FOR AT-RISK COMMUNITIES IN A CHANGING CLIMATE

Dan White, Alaska Center for Climate Assessment and Policy

Many communities in Alaska are faced with multiple threats to infrastructure and quality of life due, in part, to projected changes in precipitation, temperatures, and incidences of flooding and erosion. Decision-makers must determine how best to manage their community's vulnerability with the knowledge that future climate is uncertain. This webinar will discuss a newly released report "Decision-making for at-risk communities in a changing climate" prepared by the Alaska Center for Climate Assessment and Policy. The report is intended to inform decision-makers relating to climate change and uncertainty, risk management, and relocation. The report regarding the planning process for relocation focus on the steps from planning through execution, perspectives on community engagement, partial relocation, costs, and timing. Sustainability recommendations focus on defining sustainability, future energy planning, planning for a changing cost of living, and relocation corridors. Join this webinar to learn more about decision-making for at-risk communities in a changing climate.

[Listen to the webinar Podcast](#)

Presentation/Slides: [Decision-making for at-risk communities in a changing climate](#)

Download the Report: [Decision-making for at-risk communities in a changing climate](#)

<http://www.uaf.edu/accap/telecon.htm>



Podcasts & Slides Available

- **CONNECTING ALASKA LANDSCAPES INTO THE FUTURE**
- **CHANGES TO PERMAFROST IN ALASKA: OBSERVATIONS AND MODELING**
- **CLIMATE CHANGE AND ALASKA FISHERIES**
- **CLIMATE CHANGE IMPACTS ON WATER AVAILABILITY IN ALASKA**
- **TUTORIAL: USING WEB-BASED AND GOOGLE EARTH MAPS OF PROJECTED CLIMATE CHANGE IN ALASKA**
- **OUTCOMES OF THE ARCTIC COUNCIL'S ARCTIC MARINE SHIPPING ASSESSMENT**
- **CLIMATE CHANGE AND TOURISM IN ALASKA**
- **EXPERIMENTAL FORECAST OF AREA BURNED FOR INTERIOR ALASKA**
- **CLIMATE INFLUENCE ON ICE BREAKUP IN ALASKA**



Up-Coming Webinars

- **Tuesday, February 23, 10:00-11am**
HYDROPOWER PLANNING IN ALASKA: DOES CLIMATE CHANGE MATTER?
Jessie Ellen Cherry, International Arctic Research Center & Institute of Northern Engineering, University of Alaska Fairbanks
- **Tuesday, March 23, 2010, 10:00-11am**
OCEAN ACIDIFICATION IN ALASKA
Jeremy Mathis, School of Fish and Ocean Sciences, University of Alaska Fairbanks

**For call-in # and participation information contact:
Brook Gamble, 907-474-7812, accap@uaf.edu**

About

Contacts

Archives

September 2007

Significant Sea Ice Decline

Nome Frost Free for June through September

Anchorage Warmer and Wetter than Normal

Bering Sea Storm Threatens and Causes Coastal Flooding

Pacific Cyclone Strikes Alaska Panhandle

Second Pacific Cyclone Hits Alaska Panhandle

Anaktuvuk River Wildfire Becomes Largest in North Slope's History





Mendenhall Lake in the Tongass National Forest (left) courtesy of the [US Forest Service](#). Forested Communities of Alaska Map (middle) courtesy of [Scenarios Network for Alaska Planning](#). Click [here](#) to view the larger image. Spruce Beetle infested forest (right) courtesy of [UAF Cooperative Extension Service](#).

Assessing Climate Change Impacts on Forested Ecosystems of Alaska

Project:	Assessing Climate Change Impacts on Forested Ecosystems of Alaska
Partners:	USFS Pacific Northwest Research Station , Scenarios Network for Alaska Planning
Primary Scientists:	Teresa Hollingsworth (USFS), T. Scott Rupp (SNAP, UAF), Sarah Trainor (ACCAP/SNAP, UAF)
Funded by:	U.S. Forest Service

- [Project Description](#)
- [Stakeholder Workshop](#)
- [Resources](#)



Photo of firefighter courtesy of Scott Rupp (left). Wildfire in 1999 on Kenai Peninsula, Alaska in an area hit hard by bark beetle infestation courtesy of Alaska Department of Fish and Game (center). Crown fire ariel photo courtesy of Paul Duffy (right).

Improving Seasonal Fire Predictions and Information Services in Alaska for Regional and National Fire Resource Planning

Project:	Improving Seasonal Fire Predictions and Information Services in Alaska for Regional and National Fire Resource Planning
Partners:	Neptune and Company and the Climate Assessment for the Southwest (CLIMAS)
Primary Scientists:	Paul Duffy (Neptune and Company), Daniel Ferguson (CLIMAS), and Sarah Trainor (ACCAP)
Funded by:	National Integrated Drought Information System and National Oceanic and Atmospheric Administration's (NOAA) Regional Integrated Science and Assessment (RISA) program

- [Overview of the Project](#)
- [Methods](#)
- [References](#)



Linking Indigenous People Across Regions for Climate Adaptation



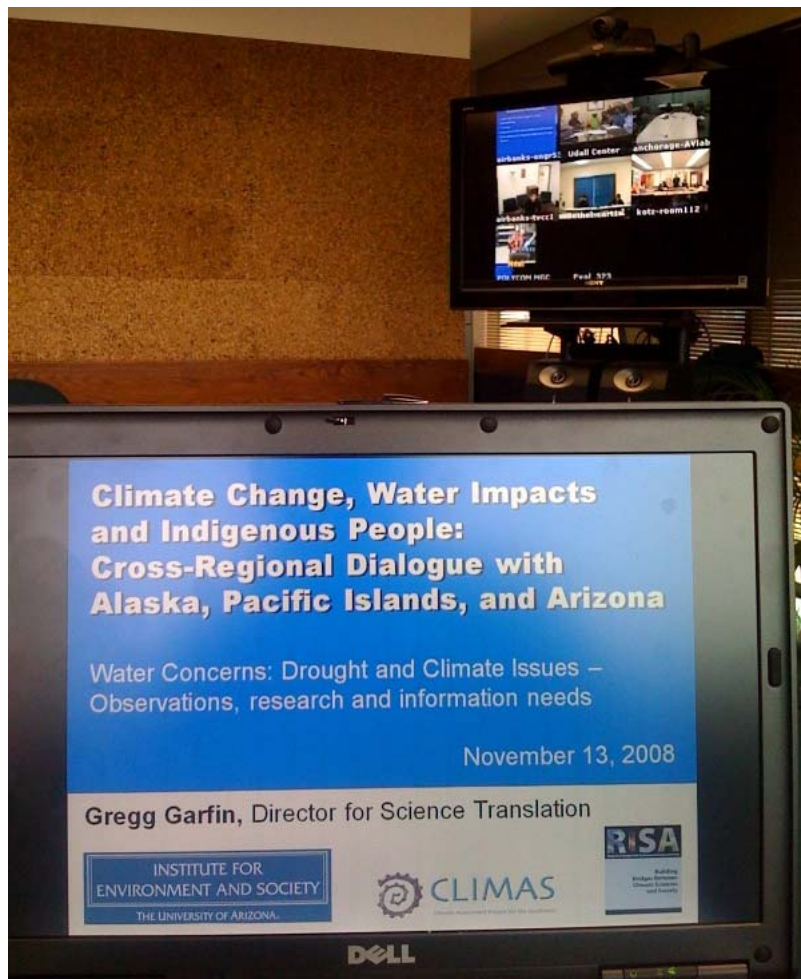
Pacific RISA
managing climate risk in the Pacific



ACCAP
Alaska Center for
Climate Assessment & Policy



CLIMAS
Climate Assessment for the Southwest





Training for Decision Support Tools

Sea-Ice Information Workshop, Barrow, Alaska. November 2008.



Robert, Paniq Kaleak, Lewis Nuvuk Brower, Matthew Druckenmiller, Archie Ygayaq Ahkiviana, Harry Kupaaq Brower, Jr.



Decision-making for at-risk communities in a changing climate



Prepared by the
Alaska Center for
Climate Assessment
and Policy





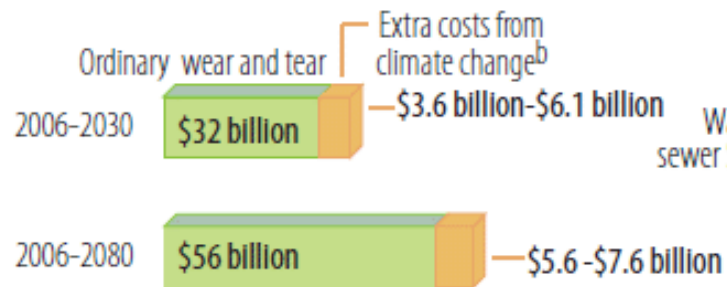
Improving Public Infrastructure Replacement Cost Model

Figure 1. How Much Might Climate Change Add to Future Costs for Public Infrastructure in Alaska?

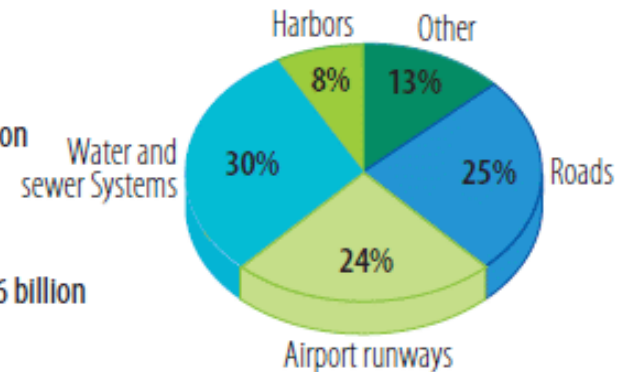
Examples of Public Infrastructure (Federal, State, and Local)

- Roads: 9,564 miles
- Airports: 253
- Bridges and harbors: 954
- Schools: 520
- Water and sewer systems: 366
- Railroad tracks: 819 miles
- Law enforcement, defense, emergency services, and health-care facilities: 841

Estimated Cost of Replacing Infrastructure as It Wears Out^a



Likely Share of Extra Costs (By 2030)^c



^aThese estimates are in *net present value*, which is a standard way of summarizing potential costs over long periods. Think of it as the amount that would need to be deposited in a bank today, earning interest, to cover all the costs for a project (or some other purpose) over a specified future period. ^bDepends on the level of climate warming and takes likely design adaptations into account. ^cAssumes moderate climate warming



Vulnerability Assessment and Adaptation Planning

Interior Issues Council Climate Change Task Force

I.C.L.E.I Local Governments for Sustainability

Fairbanks Economic Development Corporation

Welcome

Interior Issues Council

Projects

All About Fairbanks

About Us

IIC News

Climate Change Taskforce

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Karl Monetti

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Mission

The Interior Issues Council Climate Change Task Force is a group of citizens and public employees collaborating to establish a sustainable climate resilient community through education, public outreach, and borough-wide actions.

Thank You





Contact Us



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