

Market-based Responses to Address Climate Change

Peter Larsen

Senior Policy Advisor
Climate Change & Energy

plarsen@tnc.org

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The Nature
Conservancy 
Protecting nature. Preserving life.™

An aerial photograph of a wide river delta with multiple channels, surrounded by dense green forests. In the background, a range of snow-capped mountains stretches across the horizon under a clear blue sky.

“Conservation
means
development as
much as it does
protection.”

-Theodore Roosevelt,
1910

About The Nature Conservancy...

The Nature Conservancy works in more than 30 countries, including all 50 United States.

The Conservancy has nearly one million members.

To date, we have conserved over 125 million acres of land and 5,000 miles of rivers worldwide.

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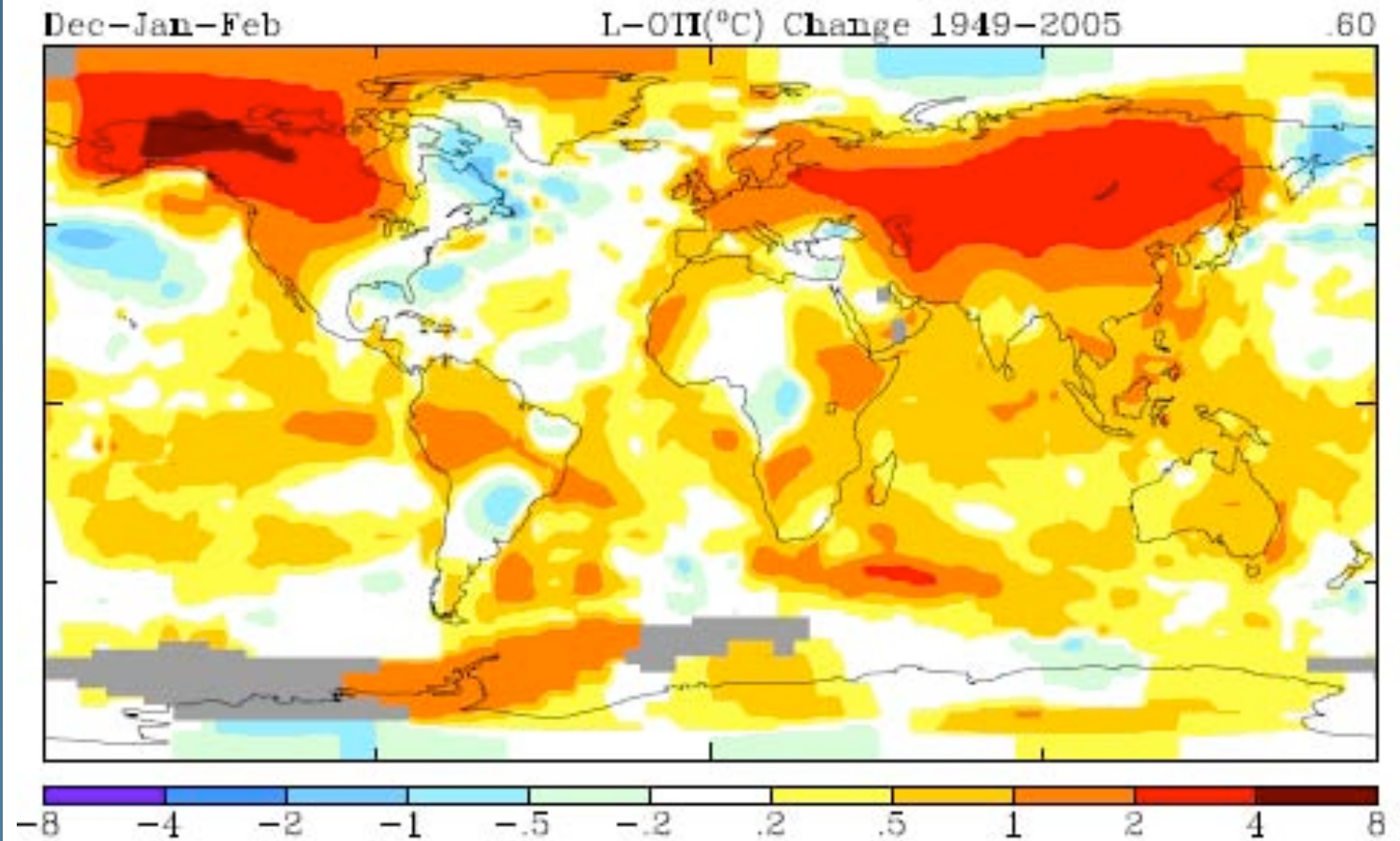
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The Nature Conservancy and Climate Change

*“Climate change poses the **single greatest threat** to our conservation work, as the lands and waters we are working to protect may no longer have the necessary climate or conditions to sustain native plants and animals.”*

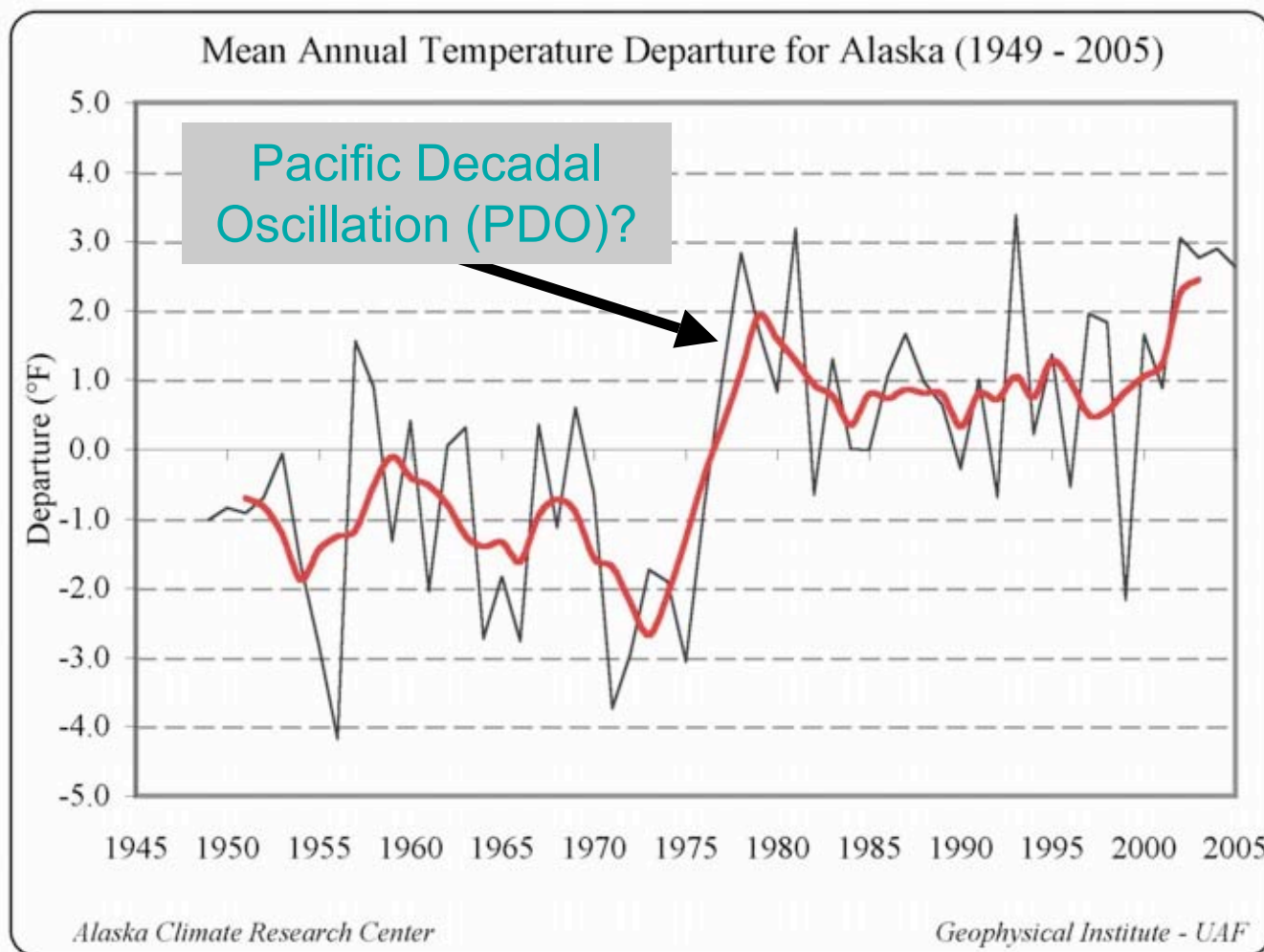
▪ *In addition to the 125,000,000+ acres of land we have conserved worldwide, the Conservancy is also a major landholder owning 1,000,000+ acres of land threatened by climate change.*

Alaska's Changing Climate



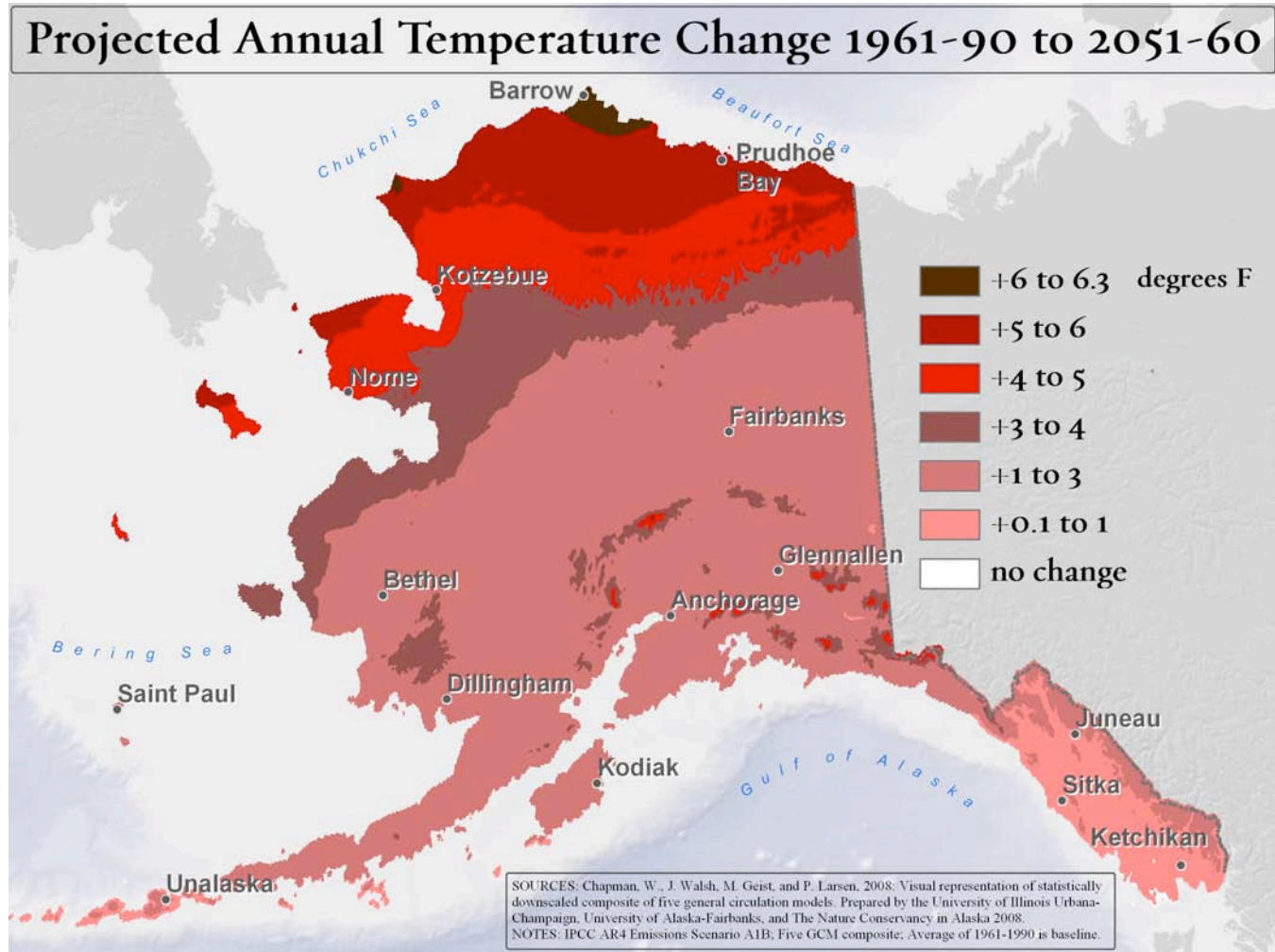
Source: NASA, GISS
(2007)

Alaska's Changing Climate (cont.)



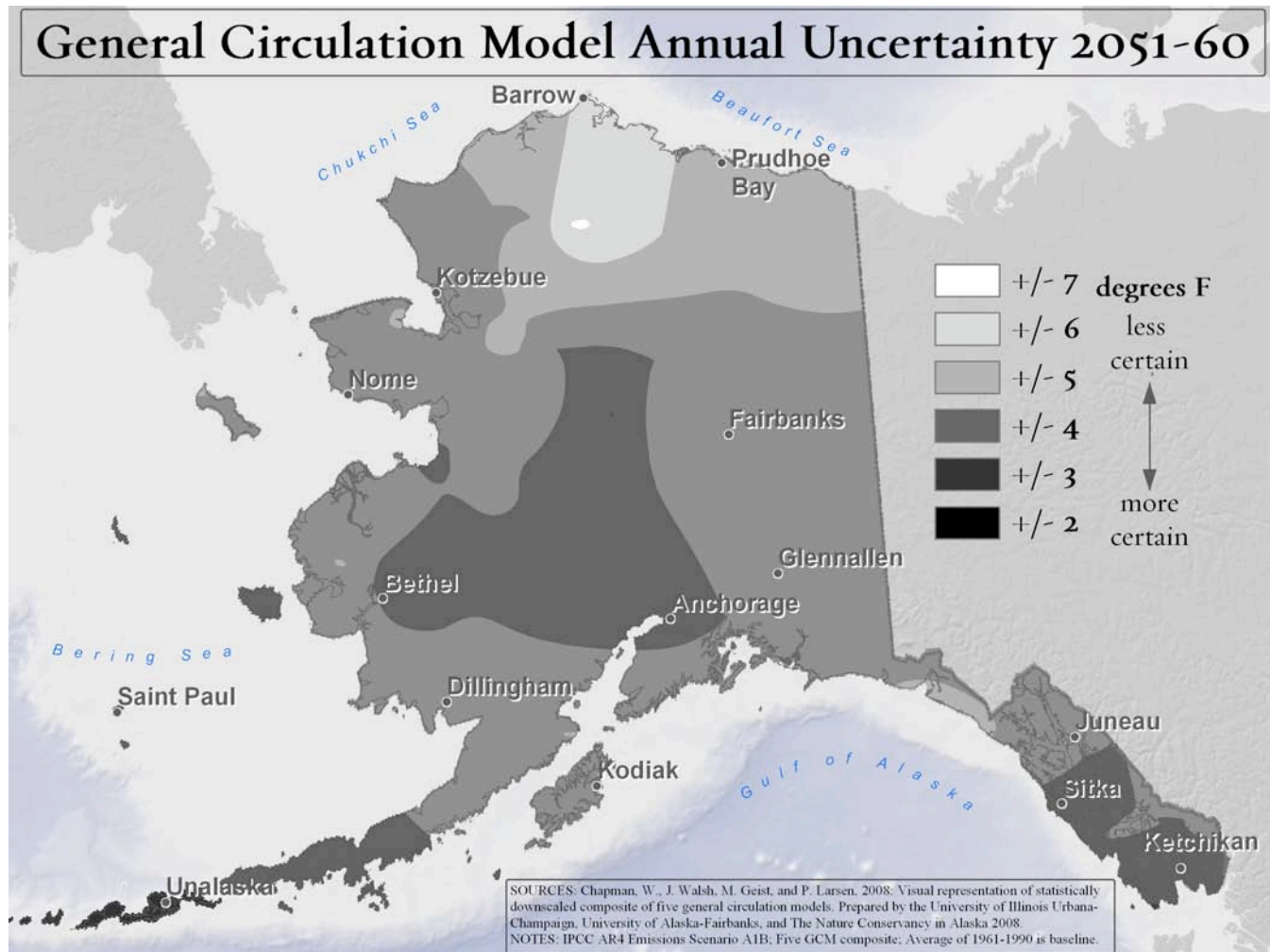
Source: UAF, Geophysical Institute (2006)

Alaska's Projected Climate



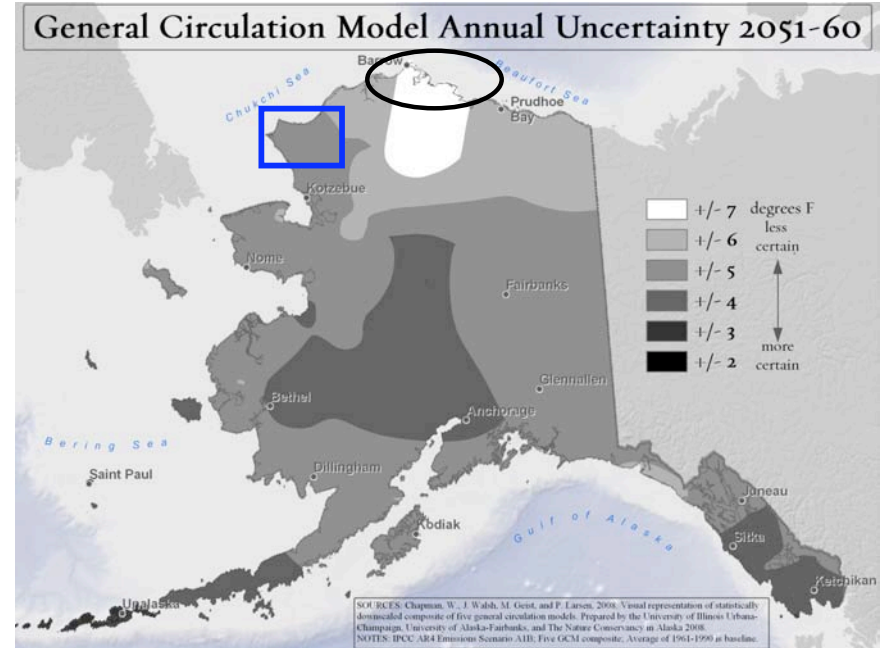
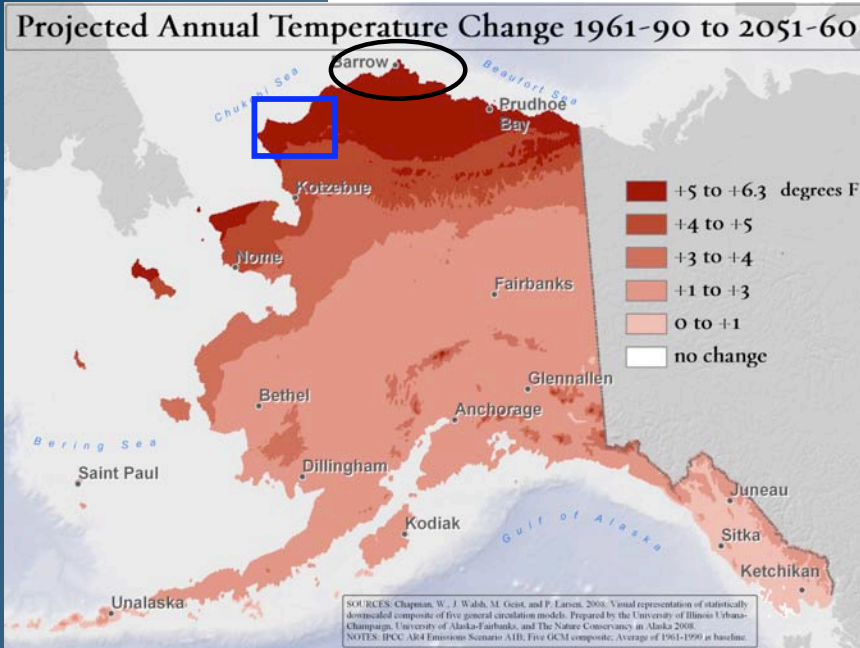
Sources: UAF-International Arctic Research Center, University of Illinois, The Nature Conservancy (2008)

Model Uncertainty and Magnitude of Projected Warming



Sources: UAF-International Arctic Research Center, University of Illinois, The Nature Conservancy (2008)

Risk vs. Degree of Uncertainty



○ Warmer

□ Warmer

WITH Less Certainty in Magnitude

WITH More Certainty in Magnitude

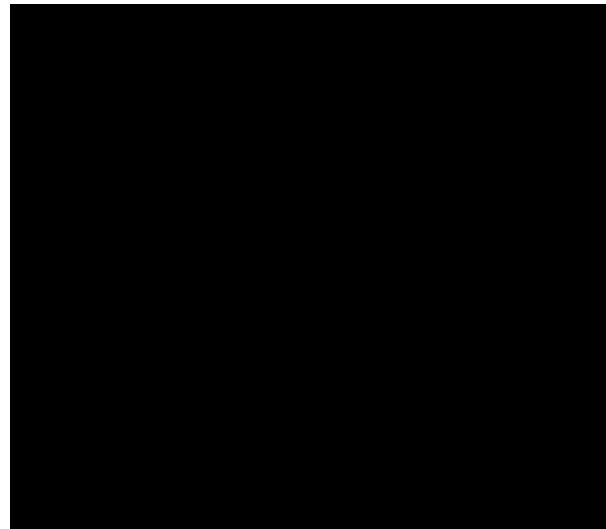
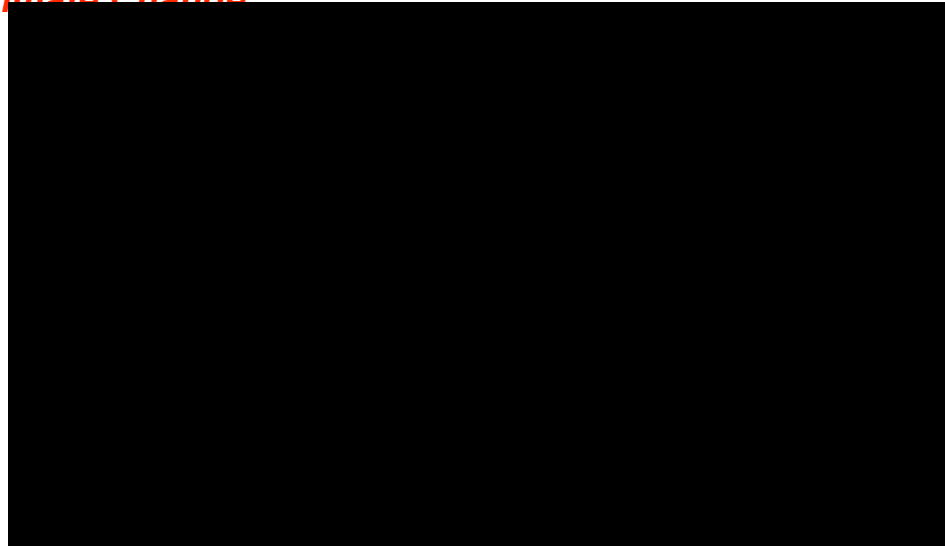
Climate Change Effects on Alaska

- **Expanded marine shipping**
- Declining food security
- Human health concerns
- Effects on wildlife migratory patterns
- **Increased access to offshore resources**
- Changes in marine fisheries
- Decline in freshwater fisheries such as arctic char and salmon
- Enhanced agriculture growing seasons
- Increased forest fire and insect infestation activity
- **Disrupted land transportation from thawing permafrost and melting ice roads**
- Difficulty maintaining subsistence hunting cultures
- Increased damage to community infrastructure from coastal erosion and thawing permafrost

Examples of Climate Change/Weather Economics

“Estimating the Future Cost of Alaska Public Infrastructure at Risk to Climate Change”

- Research conducted at ISER-UAA over the past two years.
- First climate change economics model in Alaska.
- Considerable amount of statistical uncertainty in this model, but future improvements are planned.



Source: Larsen et al (2007)

Examples of Climate Change/Weather Economics

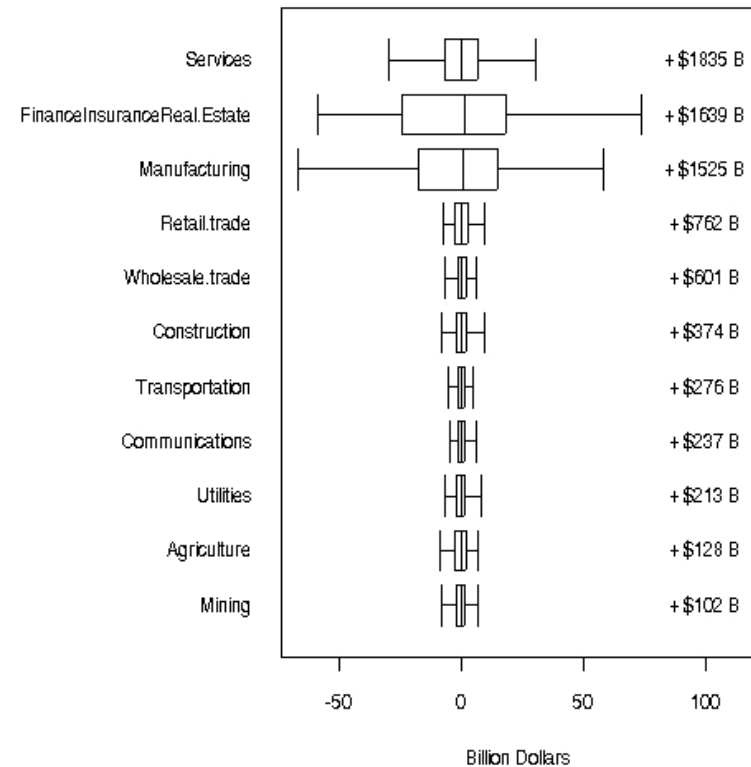
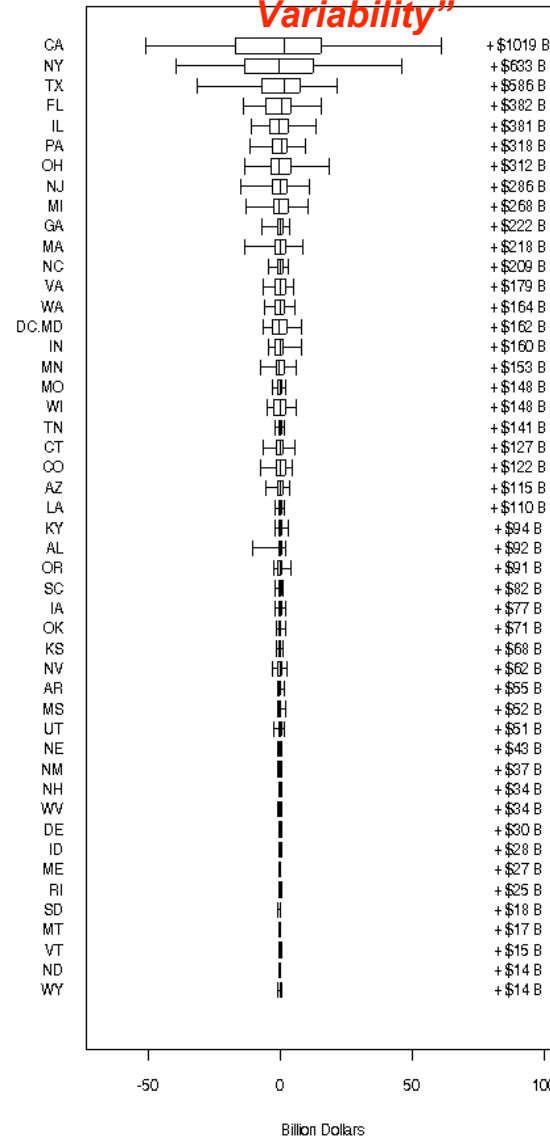
“Sensitivity of U.S. Economy to Historical Weather Variability”

Research conducted at NCAR and U. of Colorado over the past 3.5 years.

U.S. economy probably more “sensitive” to weather than what is reported in this analysis.

This project provides early analytical framework for evaluating financial risk to economy from changes in weather.

Efficiently-designed weather derivatives markets can hedge away financial risk to companies.



Source: Larsen et al (2007), Lazo et al (2007)

Climate-related Policy Developments

- Alaska Activities

 - 📁 Governor's Subcabinet on Climate Change

 - 📄📁 Alaska Climate Impact Assessment Commission

- Regional Market-based Cap and Trade Program

 - 📁 Western Climate Initiative (Alaska is "observer")

- National Market-based Cap and Trade Programs

 - 📁📄 Bingaman-Specter (co-sponsored by Stevens/Murkowski)

📄📁 Lieberman-Warner (bill that is *moving...*)
Recent paper from ISER reported that regulating GHGs through market-based cap and trade program would likely increase national demand for Alaska's natural gas reserves.

www.iser.uaa.alaska.edu

What do these Businesses have in Common?



United States Climate Action Partnership (USCAP)


1. Calling for a mandatory market-based approach to ensure that GHG emissions are reduced from current levels by 60% to 80% by 2050.
2. Establishing a price signal for carbon that may include a combination of approaches such as cap-and-trade, tax reform, and technology incentives, etc.
3. Encouraging actions by other countries, including large emitting economies in the developing world, to implement GHG emission reduction strategies.


Please visit: www.us-cap.org for more information.


Upcoming Business Roundtable on Climate Change

- February 14th, 2008 from 8:15 – 4:00 at Egan Center.
- Hosted by RDC, The Nature Conservancy, ConocoPhillips, BP Exploration Inc., and many others.
- Featured speakers include:

 **Mattia Romani** (U.K. Government/Shell) discussing economics of climate change.

 **Roger Wicks** (Anglo American) speaking on advances in making clean energy and fuel from coal.

 **Ken Baker** discussing how Vancouver, B.C. is making the 2010 winter Olympics an energy efficient event.

 **Randy Armstrong** (Shell) will be discussing USCAP partnership.

Please visit www.akrdc.org for registration information.

An aerial photograph of a wide river delta with multiple channels and sandbars. In the background, there is a dense forest of evergreen trees, a large body of water, and a range of snow-capped mountains under a clear blue sky.

Thank You