

Meeting Societal Needs: Regional Integrated Assessments in Support of Decision-making

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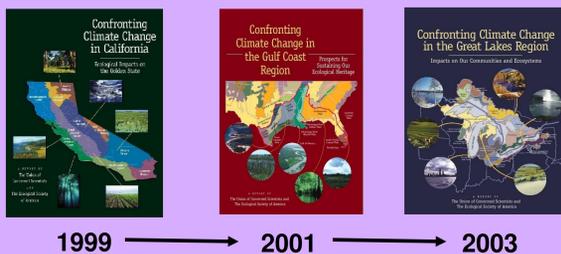
²National Center for Atmospheric Research

Assessing and Communicating Local Consequences of Global Climate Change 1

Over the past seven years the Union of Concerned Scientists (UCS) has worked with independent experts in the global change research community to assess and communicate the projected impacts of climate change across three regions of the U.S. – California, the Great Lakes, and the Gulf Coast. These assessments have played a large role in motivating mitigation and adaptation responses to climate change by decision-makers at local, state and regional levels. Focusing on a recent assessment in California, we describe the strategy, public impacts, and lessons learned from the assessment process.

The overarching lesson from these assessments is that, by combining credible scientific analysis with concerted efforts to reach opinion-leaders, policymakers and the public, scientists can inform and strengthen societal responses to climate change. However, this process takes a multi-year commitment that goes well beyond the production of an assessment report.

UCS/ESA climate impacts reports

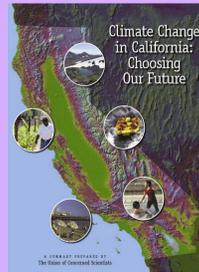


1999 → 2001 → 2003

Case Study: Climate Change in California 2

Presenting Climate Change as a Choice

“Emissions pathways, climate change, and impacts on California”
Proceedings of National Academy of Science
Published in August 2004

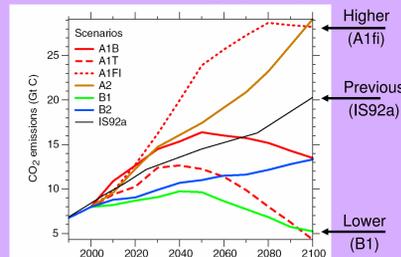


Assessment Questions:

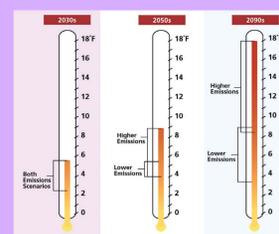
What are the consequences of following markedly divergent emissions pathways?

- for temperature and precipitation
- for key climate-sensitive sectors

Global Emissions Scenarios Intergovernmental Panel on Climate Change (IPCC)



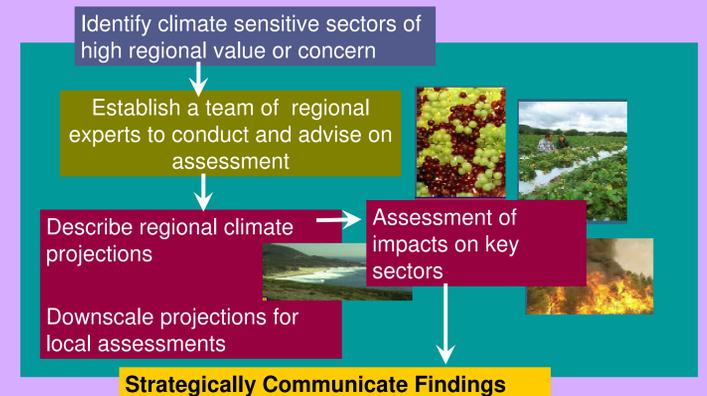
California statewide Projected changes in average summer temperature



Assessment Strategy 3

Project Design

- Regional focus to “bring global climate change home”
- Use scientific and policy filters to choose focus topics
- Ask regional experts to carry out independent assessment of projected impacts
- Ensure that the report is peer-reviewed, policy relevant, accessible and attractive



Outreach Strategy

- Provide authors with media training
- Recruit additional scientists for outreach
- Carry out extensive outreach to public and private audiences

Widespread Impacts of Assessment 4

Media Impact

The CA assessment received wide media attention at the state, local and national level.



Policy Impact

- West Coast Governors Agreement – In November 2004 Washington, Oregon, and California approved a series of recommendations for action to address global climate. This California assessment was included as APPENDIX F of the recommendations report
- This CA assessment was referenced heavily in the lead-up to the September 2004 California Air Resources Board ruling to regulate carbon dioxide emissions from California vehicles
- Results from this CA assessment were highlighted by state officials as motivation for CA Governor Schwarzenegger’s Executive Order calling for reduction of greenhouse gas emissions.
- Authors were invited to speak at a number of policy settings including:
 - Senate Committee Hearing – convened by John McCain, September 15, 2004
 - The Dialogue on Future International Actions to Address Global Climate Change hosted by the Government of Mexico, Mexico City, November 2004 .

Lessons Learned 5

Credibility

Attain credibility through both scientific peer-review and by engaging local scientific and community leaders.



- Katharine Hayhoe, ATMOS Research and Consulting
- Daniel Cayan, Scripps Institution of Oceanography
- Christopher Field, Carnegie Institution
- Peter Frumhoff, Union of Concerned Scientists
- James Lenihan, USDA Forest Service
- Claire Lutch, Carnegie Institution
- Susanne Moser, National Center for Atmospheric Research
- Stephen Schneider, Stanford University
- Kimberly Cahill, Carnegie Institution
- Elsa Cleland, Carnegie Institution
- Larry Dale, Lawrence Berkeley National Lab
- Ray Drapek, USDA Forest Service
- R. Michael Hanemann, UC Berkeley
- Laurence Kalkstein, University of Delaware
- Edwin Maurer, Santa Clara University
- Norman Miller, Lawrence Berkeley National Lab
- Ronald Neilson, USDA Forest Service
- Scott Sheridan, Kent State University
- Julia Verville, Union of Concerned Scientists

Outreach

Communicate and distribute report widely to the media, the public, civic groups and public officials

Communication of this CA assessment included:

- Over 100 briefings held including:
- CA Legislature
 - Air Resources Board
 - CA industry
 - Insurance Companies
 - CA faith community
 - Energy Commission
 - Public Utilities Commission
 - Utilities
 - Agriculture
 - Senate Commerce Committee

Long-term Commitment

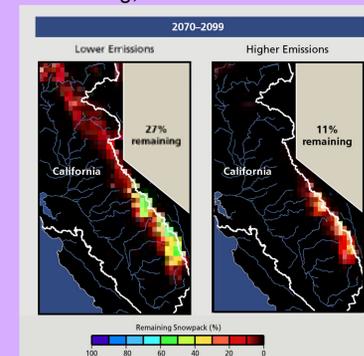
Linking the science to action takes a long-term commitment that goes beyond the production of the assessment report



Accessibility

Present results to non-technical audiences

Diminishing Sierra Snowpack
% Remaining, Relative to 1961-1990



Solutions

Link local impacts to mitigation and adaptation solutions



Implications for Federal Assessment

The U.S. Global Change Research Act of 1990 mandates quadrennial federal assessments of the effects of global change on the natural environment, human health and welfare, agriculture and other specified areas. The first U.S. national assessment, which was released in 2001, had considerable stakeholder and broad scientific involvement. However, our assessment experience suggests that the lack of follow through on the first assessment may have substantially limited the impact of this important federal initiative. Successful future federal efforts to assess and communicate the implications of climate change for the US may require a restructuring of the assessment process to more effectively insulate it from the shifting visions and politics of governing agencies and allow for a longer-term commitment.