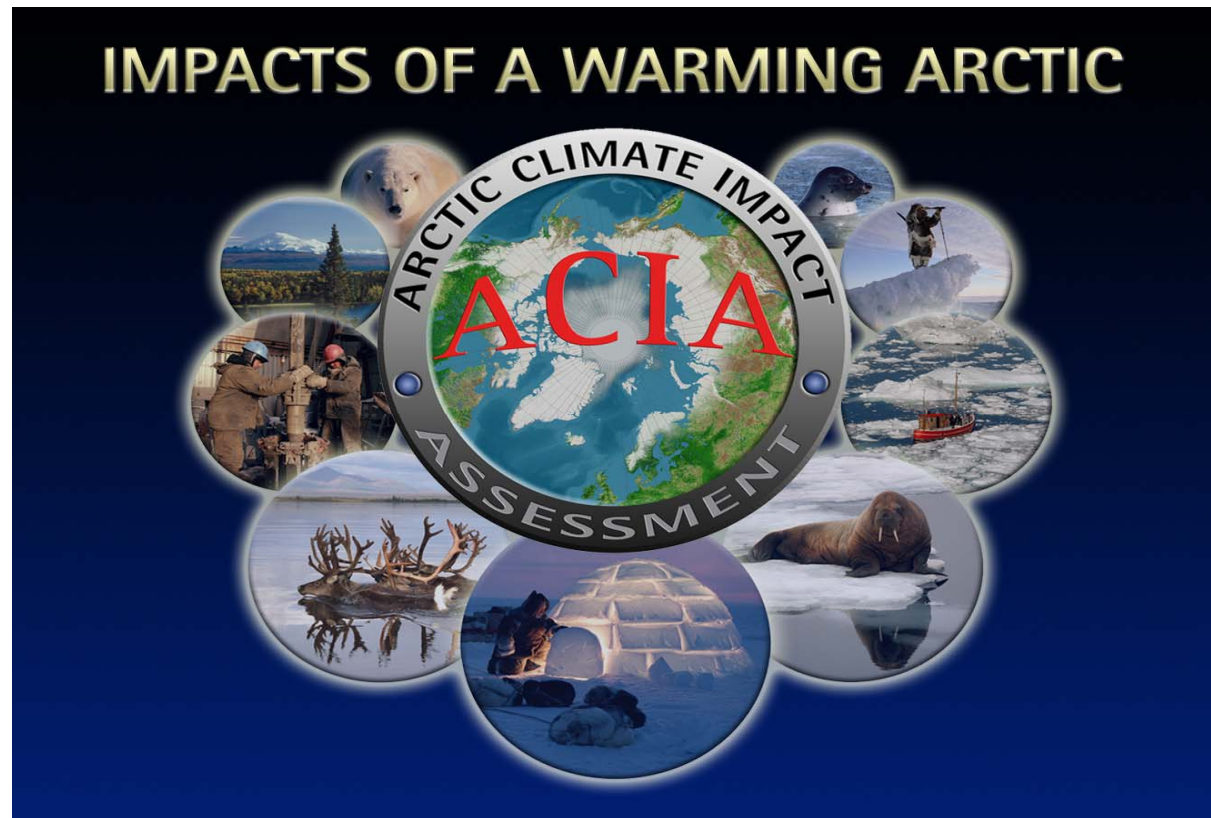
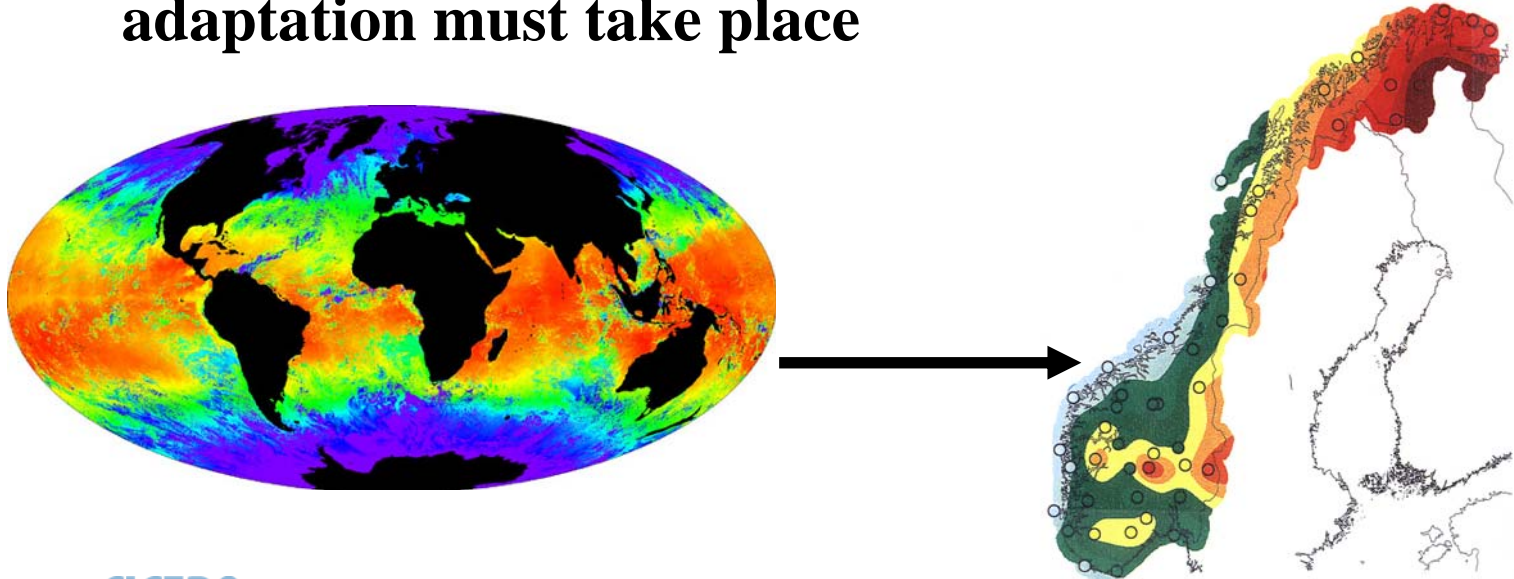


Can the experiences from ACIA be applied to a similar assessment in alpine areas ?



From global to regional and local

- **IPCC: Global means and large-scale trends of climate change and its consequences**
- **Challenge: Extend this knowledge to the regional and more local scales where the "patchiness", extremes and surprises are most likely to be expressed and adaptation must take place**





IMPACTS OF A WARMING ARCTIC

United States
of America

Canada

Greenland/
Faroe Islands/
Denmark

Iceland

Russia

Norway

Sweden

Finland



The Eight Arctic Nations

Permanent Participants

Observers (Countries and Organizations)

Framework for Implementation

ARCTIC COUNCIL

International Arctic Sciences Committee

Composed of Scientist
Appointed by the Academies of
Science from 18 Countries

ACIA

ACAP

Arctic Council
Action
Plan

AMAP

Arctic Monitoring
and Assessment
Programme

CAFF

Conservation
of Arctic Flora
and Fauna

EPPR

Emergency, Prevention,
Preparedness
and Response

PAME

Protection of
the Arctic Marine
Environment

SDWG

Sustainable
Development
Working Group



ACIA's Unique Approach



Integrating Insights and Knowledge from these Perspectives



The Goals of ACIA:

- **Conduct a scientific assessment within the expanded context of other developments and pressures on the Arctic environment, its economy, regional resources and peoples by evaluating and synthesizing knowledge on climate variability, climate change, and increased UV radiation and their consequences/potential impacts.**
- **Provide useful and reliable information to the governments, organizations and peoples of the Arctic region in order to support policy-making processes, by examining the environmental, human health, social and economic impacts.**



ACIA Addressed Four Basic Questions:

- What are the past and present indicators of changes in climate and ultraviolet radiation?
- What are the possible changes in the future?
- What are the possible impacts due to changes in climate and UV in the future?
- What recommended policy actions and coping strategies should be considered by the Arctic Nations and Peoples?



The Arctic is now experiencing some of the most rapid and severe climate change on Earth. Over the next 100 years, climate change is expected to accelerate, contributing to major physical, ecological, social, and economic changes. Changes in the Arctic climate will also affect the rest of the world.

IMPACTS OF A WARMING ARCTIC



Arctic Climate Impact Assessment

Scientific Report

Final Working Document

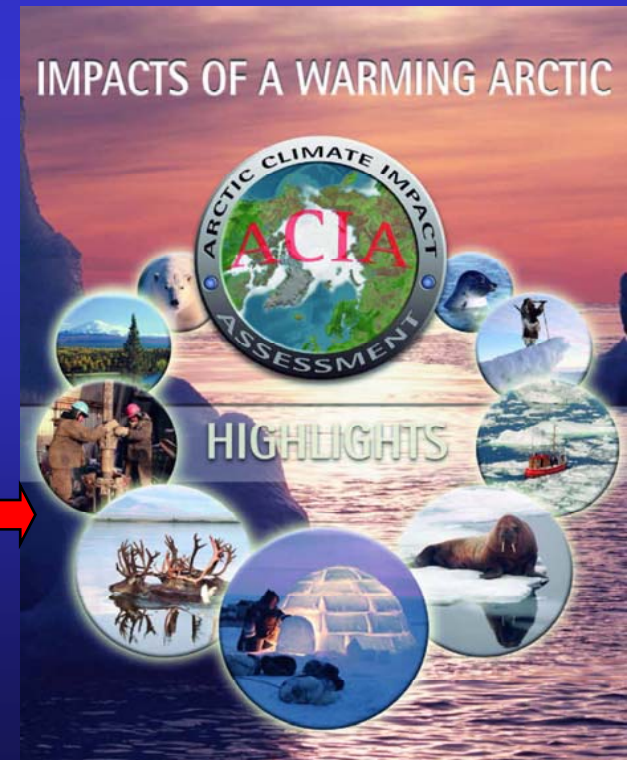
Cambridge University Press
Early 2005

Detailed Scientific Assessment in 18 Chapters (1000 Pages)



Overview
Document that
Details 10 Key
Findings
(140 Pages)

Highlights
Document
(18 Pages)



Indigenous Observations

Parameters	Observations
Atmosphere/ Weather/ Winds	More persistent clouds More warm weather Warmer winters in all the regions More extreme weather conditions in last 10-20 years
Rain/ Snow	Less snow than in the past Snow disappears earlier There is less sea ice and it is thinner in winter
Ocean/ Sea Ice	Later freeze-up and earlier break-up
Lakes/ Rivers/ Permafrost	Water levels are lower
Vegetation/ Land	Treeline is moving north into formerly treeless areas Bushes and willows are getting bigger and taller

The most significant achievements of ACIA

The results of ACIA have:

- 1. Contributed significantly to increase the concern, attention and understanding of the realities of global climate change, particularly in the Arctic countries and in the western world. Changes in the Arctic have global consequences.**
- 2. Provided local and indigenous peoples in the Arctic with updated and synthesised knowledge they will need in order to cope with and adapt to climate change.**

Outreach and communication of the ACIA results

Communication, Outreach, and Education Strategy:

- 1. Communication material derived from the Scientific and Overview Documents available in Multiple Languages**
- 2. Plan for Media Activities in several countries**
- 3. Scientific Communications available in Multiple Languages were possible**
 - *Collaboration with major TV and radio channels*
 - *Information Sheets and video film derived from the Scientific and Overview Documents for media, individuals, schools, etc.*
 - *CDs of both the Scientific and Overview Documents*
 - *Website broaden substantially to depict the results of the ACIA.*
 - *PowerPoint version of the science for scientific and “public” presentations of the results of the assessment.*

Climate Impact and Adaptation Assessment (CIAA)

- **CIAA – broad interdisciplinary and cross-sectorial scientific assessment. Differ from an ordinary EIA:**
 - Usually not enforced by regulations or laws
 - Developers not committed to carry out CIAA
 - In some countries developers are imposed by regulations to assess the climate effects of their activities
- **CIAAs are broad assessments carried out at political levels:**
 - Global level – UN (IPCC UNEP/WMO)
 - Global Regional level - regional bodies (Arctic Council, EU)
 - National governmental level (ex. UK, Netherlands, USA ++)
- **May also be carried out at (but few examples):**
 - Sectorial level (responsibility of the sector)
 - Country lower level (County, municipality)

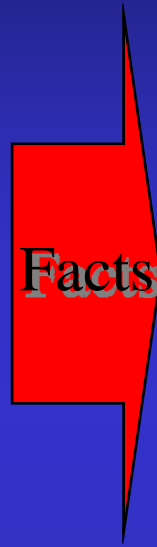
A climate impact assessment should have three partners

- **Engage the best of science: organise under some recognised framework that engages and can help engage the best scientific/expert talent of the nation/world**
- **Involve those impacted: nested in a legitimate and recognised framework that engages those impacted (local residents/stakeholders etc) by the potential changes in climate**
- **Legitimate governmental engagement: organised and enabled by a government or through a recognised "agreement" among governments**
- **Engaged and equal: All equal partners in the implementation**

- **The Essentials:** The Assessment should be organized around these essentials:
 - ✓ **Credibility and transparency:** The whole process reflects a clear sense of scientific and technical believability. Open process
 - ✓ **Salience (or relevance):** The ability and acceptance that an assessment addresses the particular concerns of a user or others affected by the changes.
 - ✓ **Legitimacy:** The measure of the political acceptability or perceived fairness of an assessment to governments, residents or other stakeholder -- those who have something at “stake”.
 - ✓ **Engagement:** Who participates, in what capacities, in both the framing, process, and implementation of an assessment.

Implement a process that “insulates” science from “influence.”

Implemented the Assessment under a framework that insulates the process from political or policy influence, e.g. a venue that is not under direct control of those who must/will implement change.



Societal
Needs

Establish a mechanisms whereby the results of the assessment flow easily from the science to the those who must/will implement change.

Summary and conclusions

- **A regional climate impact and adaptation assessment is a useful tool for promoting cooperation among countries facing the same kind of climate challenges, like in many alpine areas.**
- **A regional assessment will promote consensus by compilation and synthesis of both scientific and traditional knowledge. A common understanding of the status of knowledge, including gaps in knowledge, will help residents in the area to cope with and adapt to climate change**
- **A regional assessment will contribute significantly to increase the attention and awareness by communication of sound scientific knowledge of a topic of strong public and political interest**

thanks for your kind attention

