



Assessing Resilience in the Arctic

Arctic Resilience Interim Report 2013

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on behalf of the ARR Secretariat Team
and many contributors to the Interim Report

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An Arctic Council project 2011-2015



ARR goals:

1. Identify potential for shocks and large shifts in ecosystem services that affect human well-being
2. Analyze how different drivers of change interact and affect the ability to withstand shocks, to adapt or transform
3. Evaluate strategies for adaptation and transformation



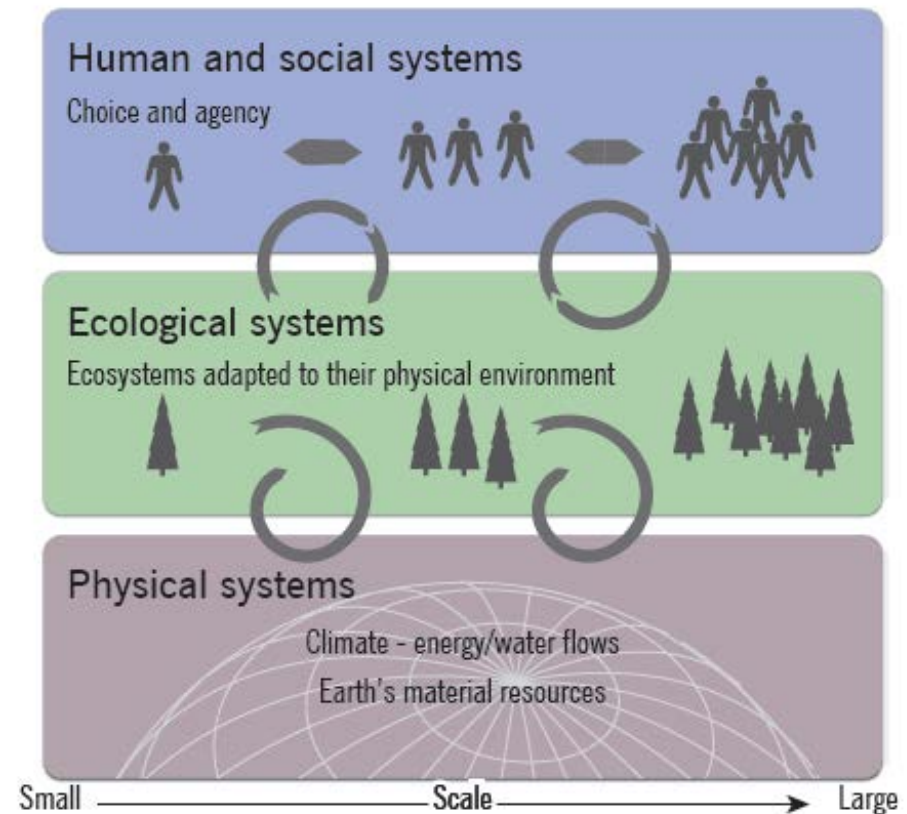
Key finding 1

The Arctic is subject to major and **rapid changes** in social and economic systems, ecosystems and environmental processes. These **interact** in ways that have profound implications for the wellbeing of indigenous and non-indigenous peoples.



Key finding 2

A **resilience** framework provides an integrative approach for assessing linked **social and ecological** changes across scales, identifying the risk of threshold effects, and building capacity to respond.





Key finding 3

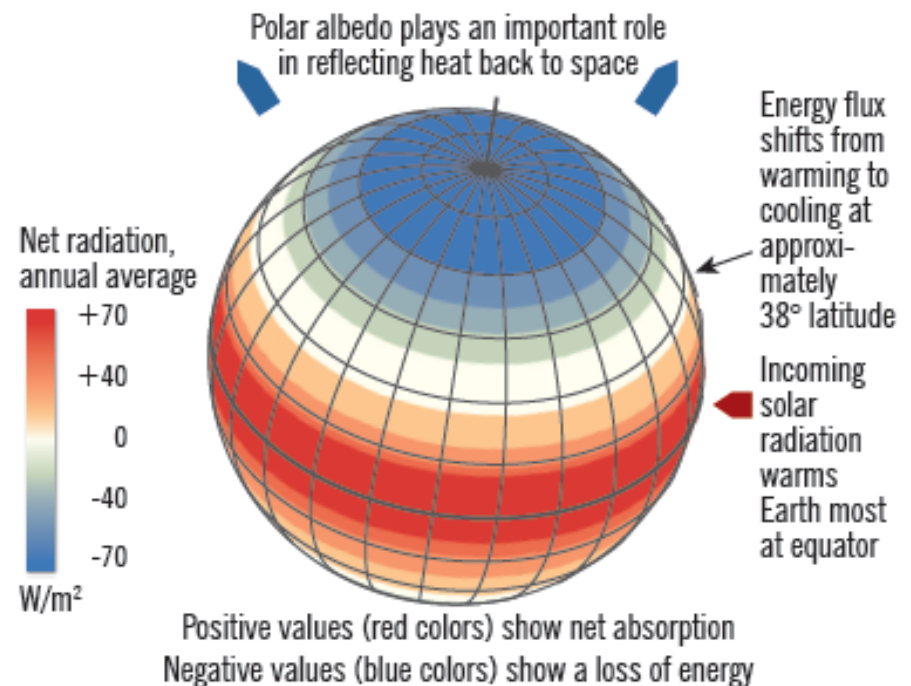
Abrupt changes have been observed in the environment across the Arctic. Such changes risk crossing environmental **thresholds**, which can have long-term consequences that affect options for future development.

Rapid drainage of shallow lakes; Deforestation of marine kelp;
Tundra drainage: dwarf shrub → boreal species;
Shrub encroachment; Auk reproduction; Snowbed
reduction; Coastal erosion



Key finding 4

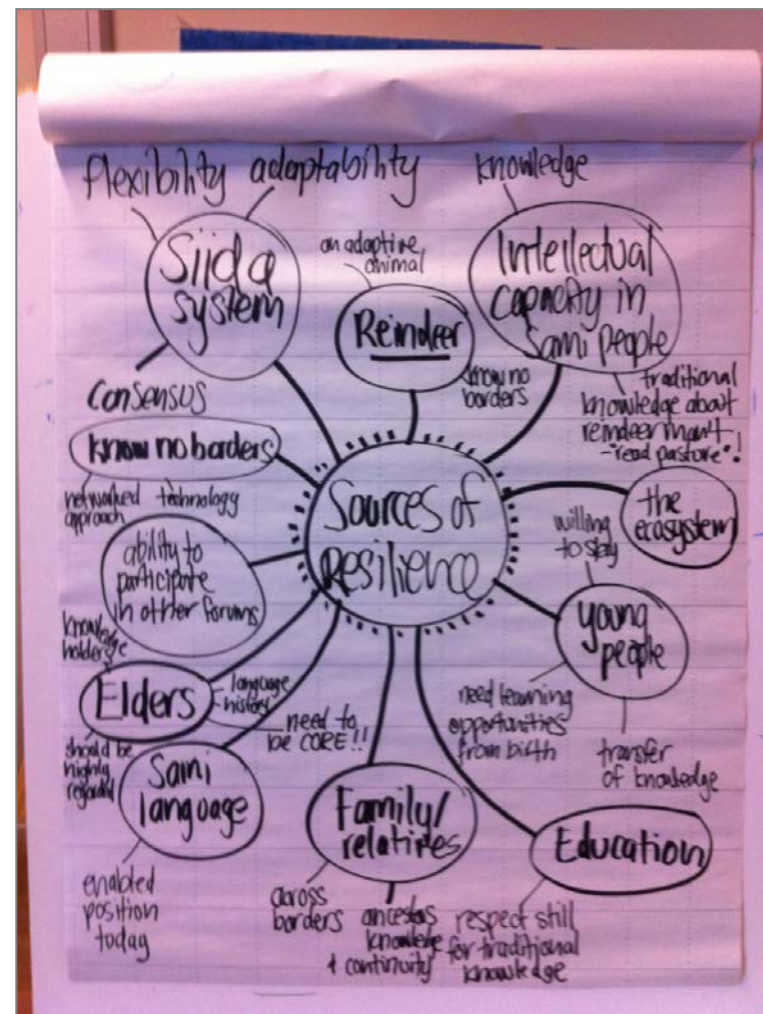
Arctic change has **global effects**, with potential impacts on societies, ecosystems and options for development across the world.





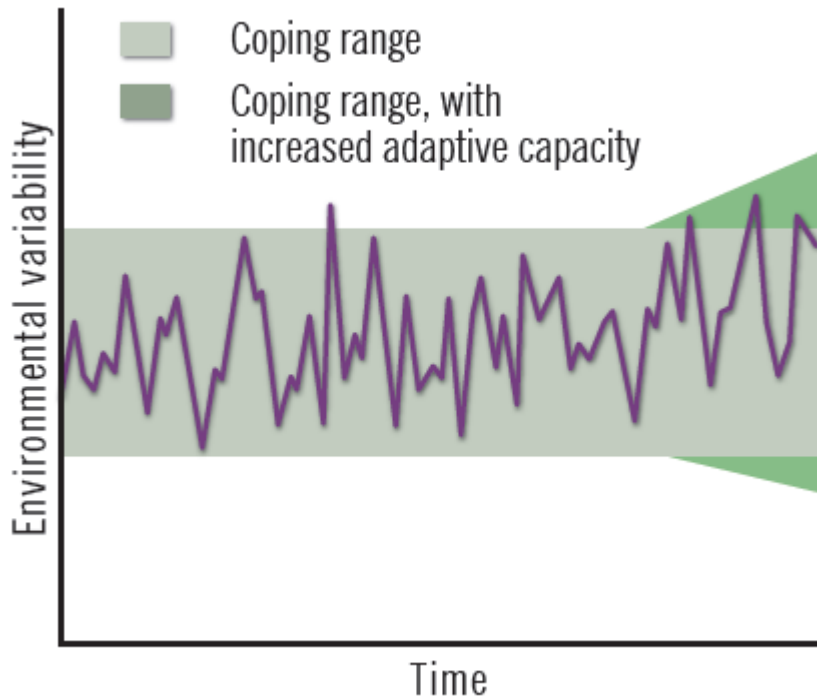
Key finding 5

Options for responding to change may be compromised by past **decisions** and interventions, particularly those that have eroded **traditional safeguards of resilience**.





Safeguarding and expanding capacities to adapt



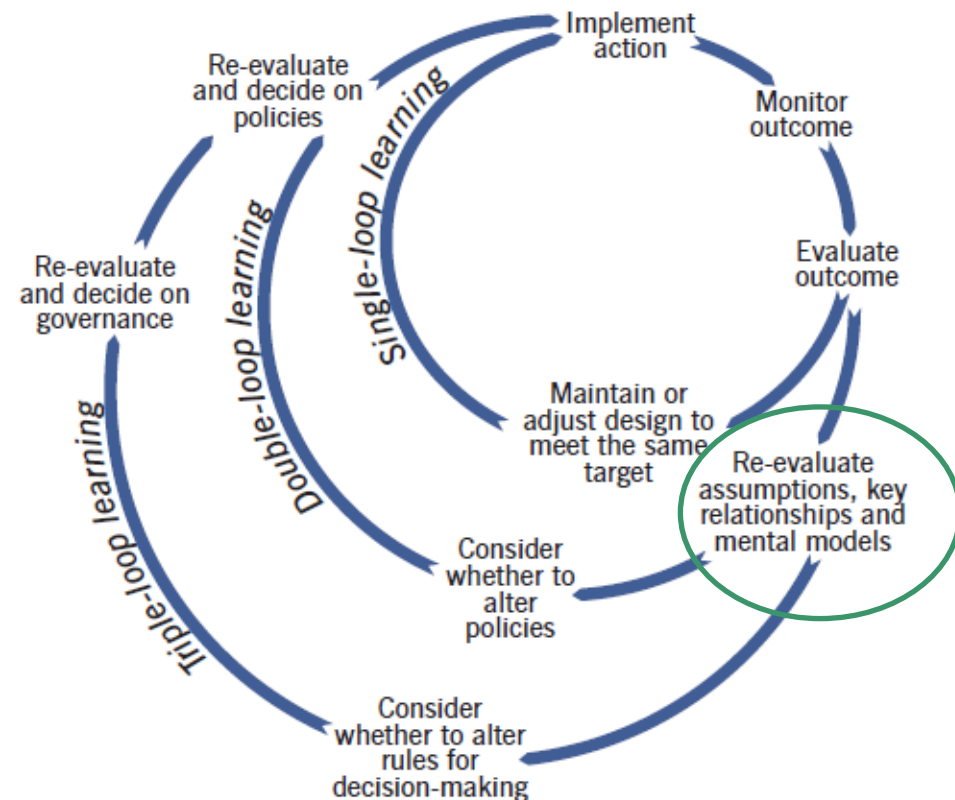
From Smith and Wandel (2006)

1. Natural capital
2. Social capital
3. Human capital
4. Infrastructure
5. Financial capital
6. Knowledge assets
7. Cultural capital



Key finding 6

Rapid Arctic change is likely to produce surprises, so **strategies for adaptation** and, if necessary, transformation must be **responsive, flexible** and **appropriate** for a broad range of conditions.





Key finding 7

Governing in the Arctic will require difficult **choices** that must grapple with different and sometimes **conflicting priorities**.

...

Participatory processes can more effectively ensure that **diverse voices** are represented and that all relevant forms of knowledge are included in decisions.

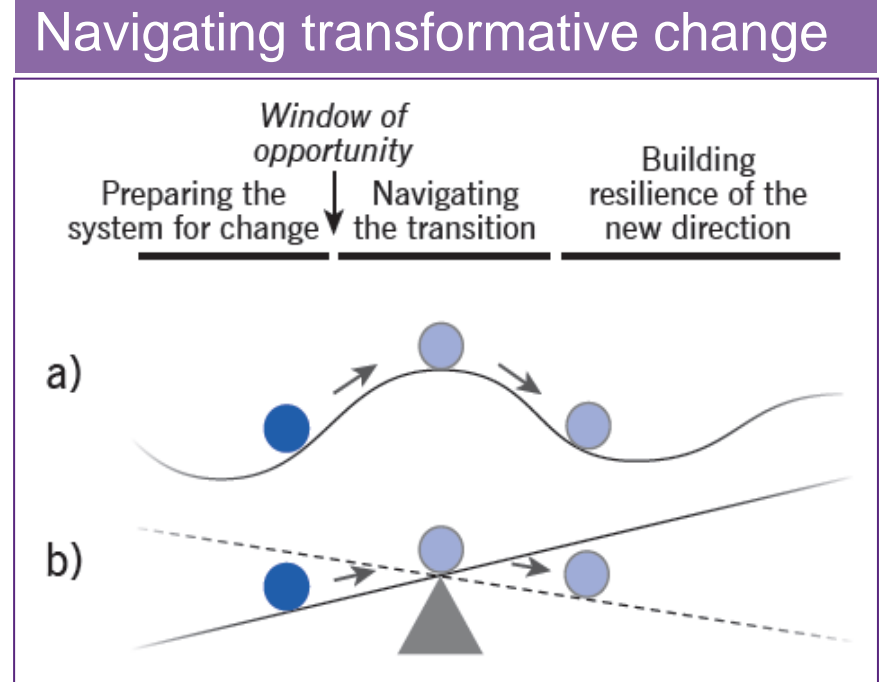


Photo: Bruce Forbes



The normative dimension

- Resilience for whom?
- Resilience of what?
- What is a desirable future?



From Folke et al. (2009) and Olson et al. (2010)



Next steps towards final report in May 2015

- What are the risks for cascading thresholds across scales?
- How is resilience changing?
- What strategies could strengthen adaptive and transformative capacities?
- Expert workshop 16-18 October (prel.)

Arctic Resilience Report



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