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Workshop Overview

Robyn S. Wilson RiskWilson

Professor of Risk Analysis and Decision Science

THE OHIO STATE UNIVERSITY
COLLEGE OF FOOD, AGRICULTURAL, AND ENVIRONMENTAL SCIENCES

Committee

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Overview

- What is our statement of task?
- What are the human sciences? Why the human sciences?
- What do we mean by responding to environmental change?
- What works well to engage, mobilize and scale-up?
- How can we better map and synthesize this knowledge?

Statement of Task

- How do we integrate, align and converge the broad mix of human sciences to produce new insights, inform, and enhance human responses to environmental change?
- How do we enable a resilient civic body to be prepared to respond to environmental shifts, uncertainties and damages?
- How do we understand and promote the action that is needed in a way that is equitable and inclusive?

What are the human sciences?

- Behavioral, social, moral, political, economic…
- Human action and interaction
- Understanding connections among biological, social and cultural phenomena to address the major issues and problems humans face in a rapidly changing world
- “Works of the spirit and human experience cannot be reduced to the realm of causal science, and require different methods” – Turner, 2013 ”History of Human Sciences”

Why the human sciences?

"Most instances of deteriorating environmental conditions are caused by human behavior. Although there are certainly instances of such environmental conditions developing from natural processes, most are largely the result of human activity. Drivers of phenomena such as climate change, loss of species' habitats, and ocean acidification rarely are the result of malicious intent, but rather the consequence of the lifestyles of billions of humans. Accordingly, efforts to promote conservation must change behavior."

- From Schultz 2011, "Conservation means behavior" in *Conservation Biology*

Why the human sciences?

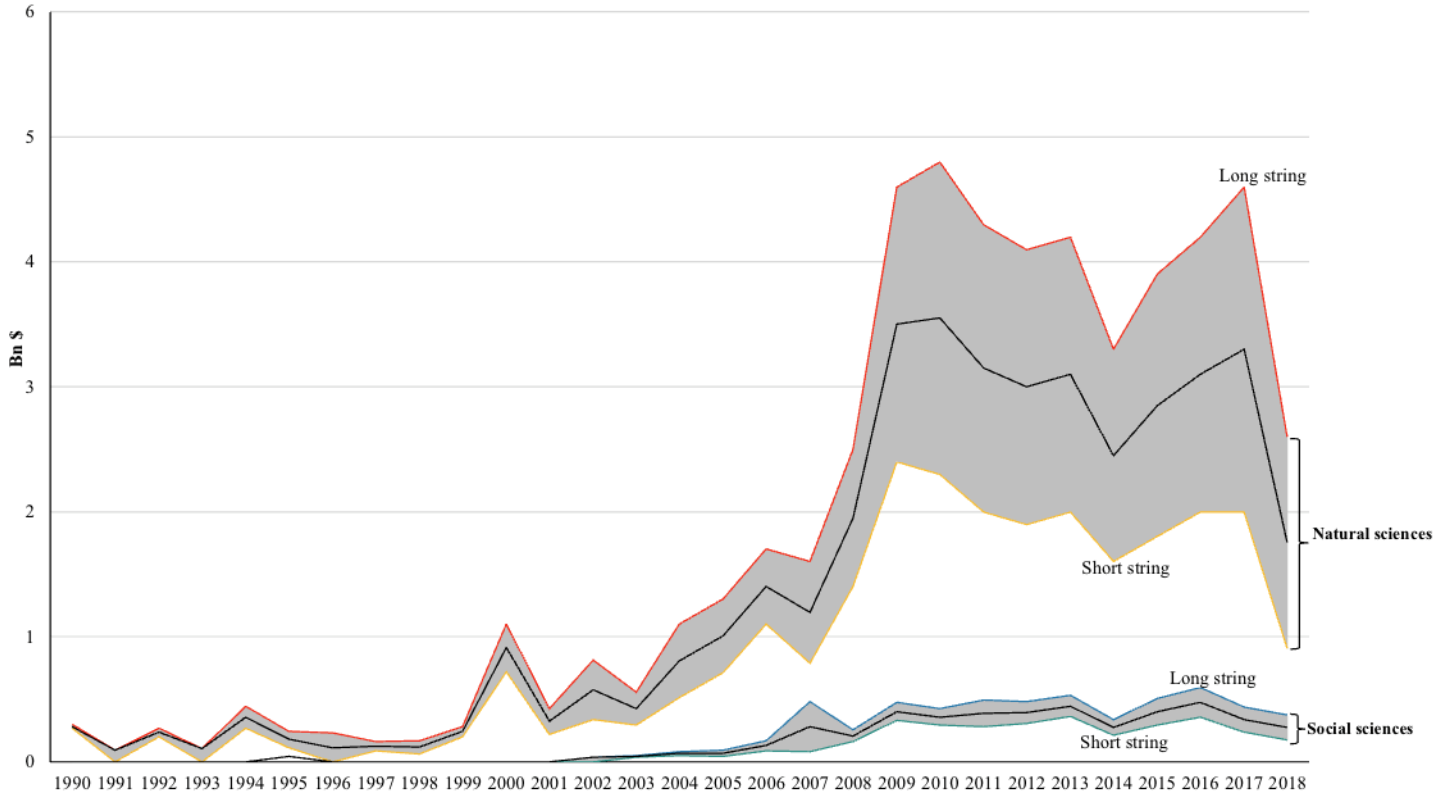

Fig. 1. Funding for climate research in the natural and technical sciences versus the social sciences and humanities (USD). The gray areas represent ranges of estimates derived from short and long search strings.

Overland and Sovacool. 2020. *Energy Res. & Soc Sci*

Why the human sciences?

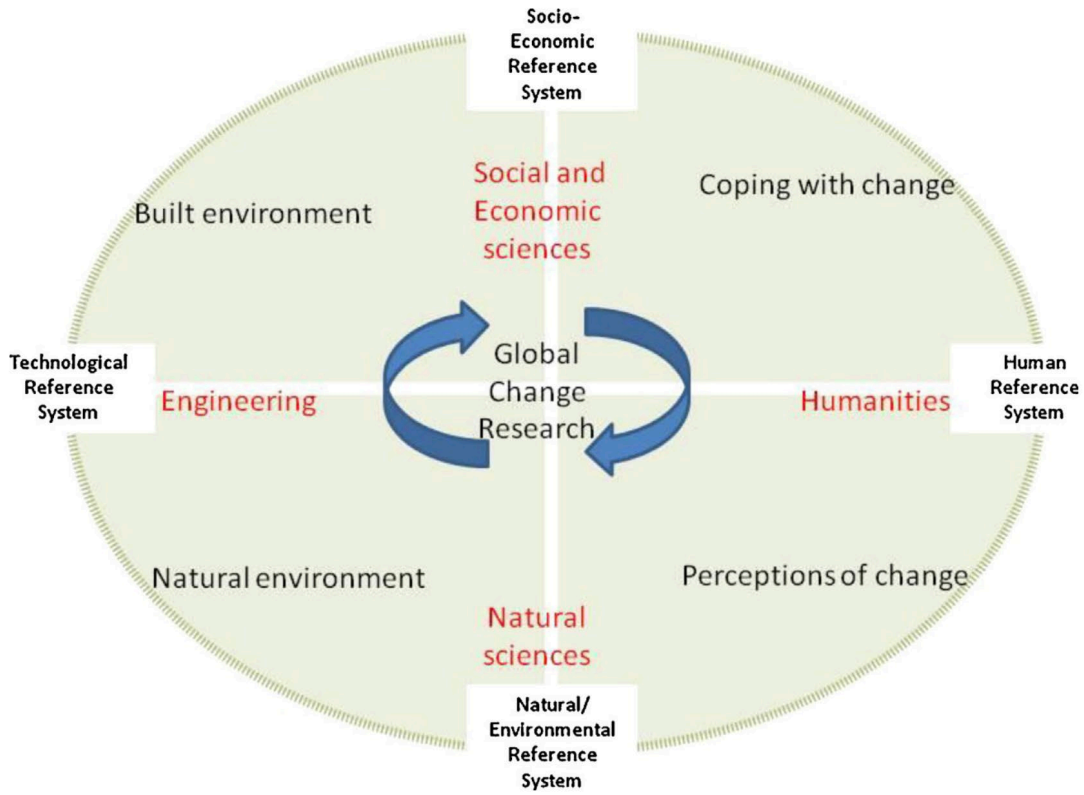

Fig. 2 – The reference systems of Global Change Research.

Holm et al. 2013 Envl Sci & Policy

What do we mean by “responding to change”?

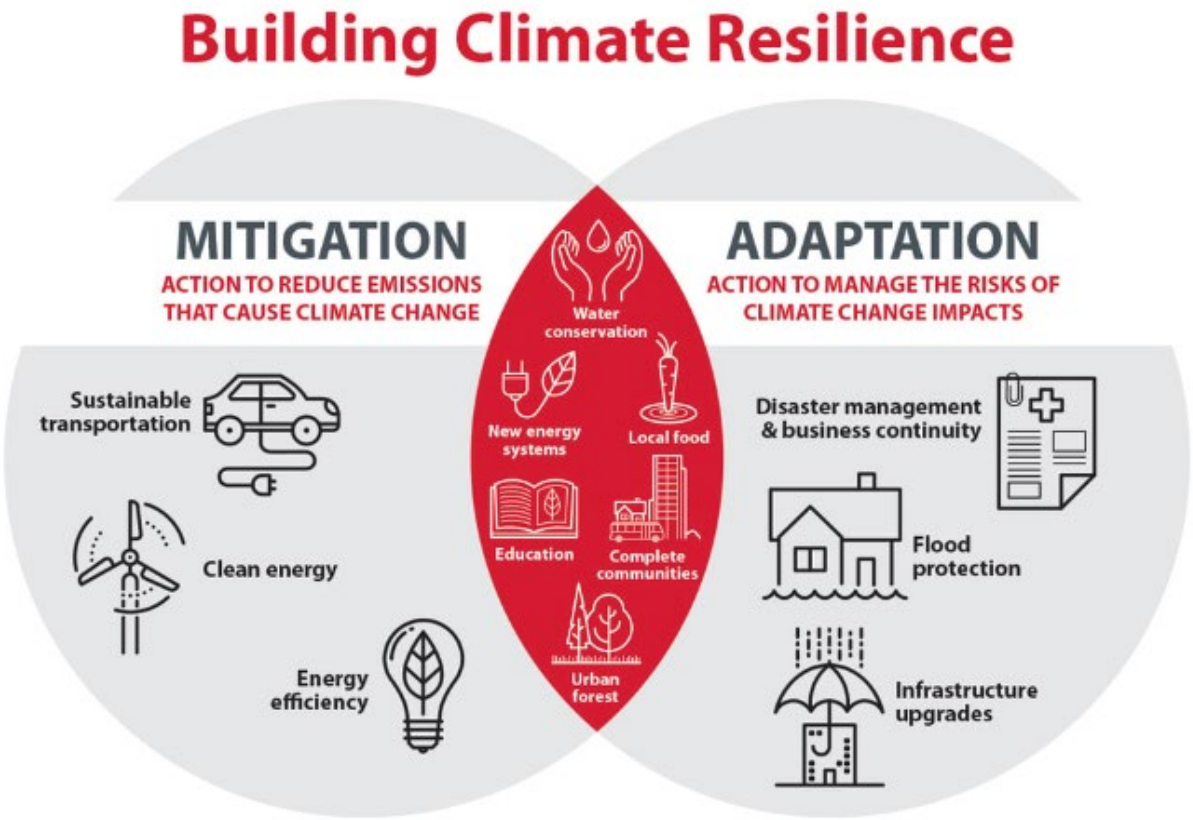

image from https://www.calgary.ca/UEP/ESM/Pages/Energy-Savings/Climate-Change.aspx?redirect=/climateprogram

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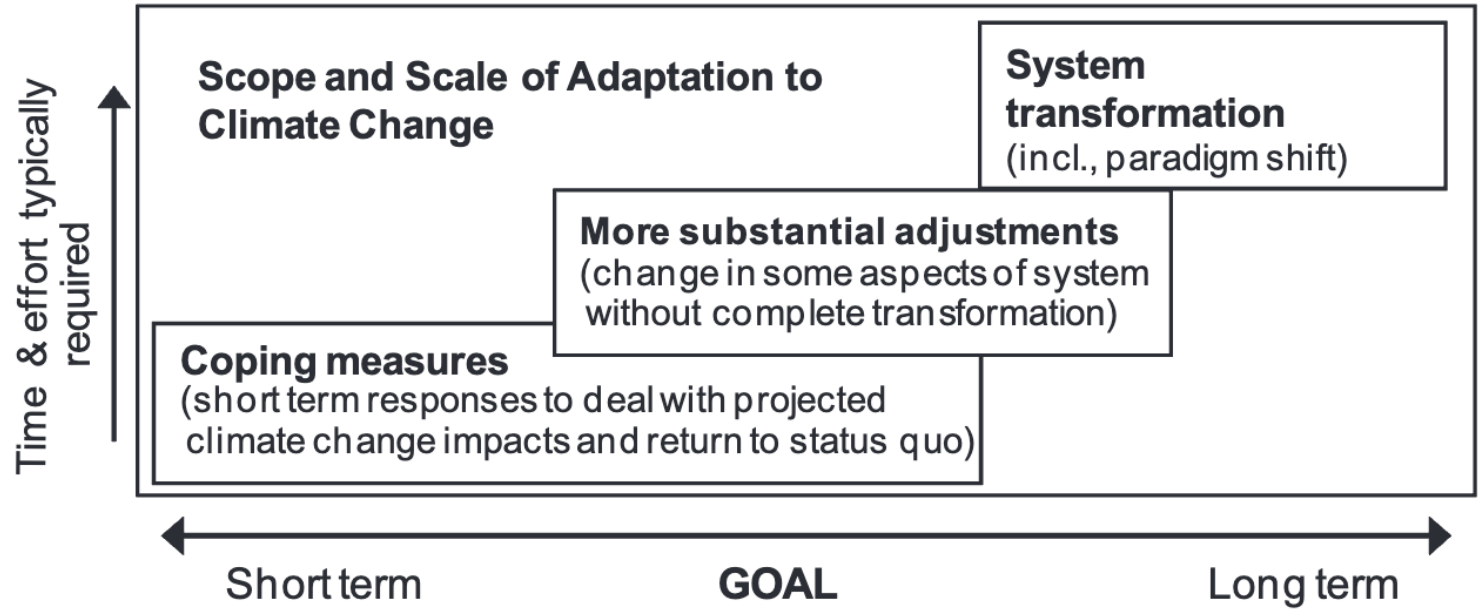

Fig. 1. Scope and scale of adaptation to climate change [based on an extensive literature review (ref. 14, especially refs. 15–18)].

Moser and Ekstrom. 2010, *PNAS*

What do we mean by “responding to change”?

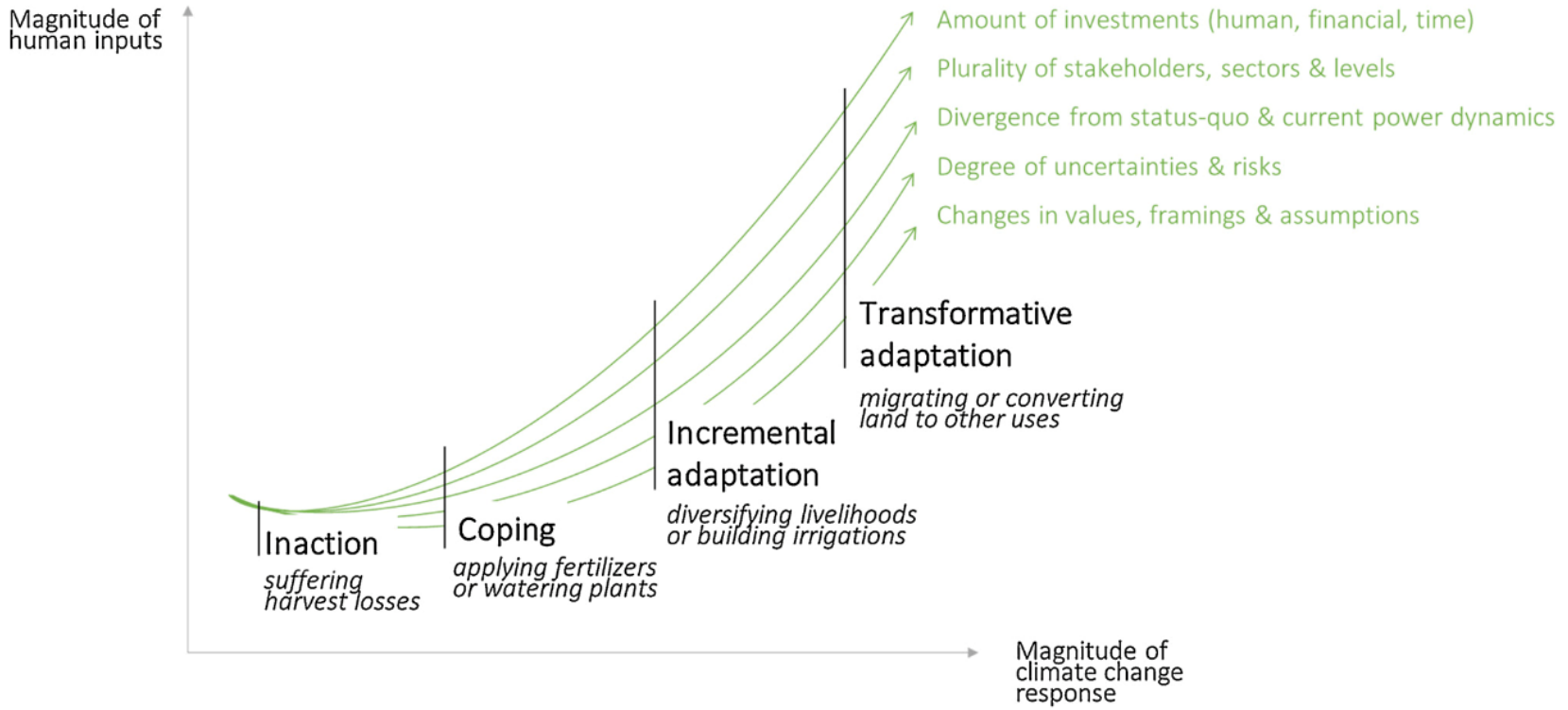

Fig. 1. Types of strategies for reducing the impact of climate change on social-ecological systems, with examples from agriculture, along a gradient of increasing magnitude of responses.

Fedele et al. 2019. *Env Sci & Pol*

What works well to engage, mobilize and scale-up?

- Diverse, collaborative partnerships
- Small-scale and bottom-up
- Structures that include boundary spanners
- Culturally competent data collection
- Values-driven framing and engagement
- Community-driven mobilization

How can we better map & synthesize this knowledge?

Account for feedbacks to minimize "downstream" impacts

Understand historically underrepresented community priorities

Translate science for action

Strive for inter/trans-disciplinary approaches

Strengthen social ties to enhance resilience

Integrate justice and equity considerations

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Next up…Panel 1: Overview of Success

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Day 1 Takeaways

Robyn S. Wilson RiskWilson

Professor of Risk Analysis and Decision Science

THE OHIO STATE UNIVERSITY
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A few thoughts…

- There is a lot of “best practice” in this space

  in science (e.g., papers written in the 70s, CBPR in public health)

  In communities (e.g., water justice stories leading to empowered change)

- And more agreement than we sometimes think

  e.g., communicating narratives for impact, community scale being critical for change

- What is stopping greater collaboration and shared learning?
- What is stopping widespread implementation? Or the “scaling up” or replication of success across communities?
- The human sciences need community input, but what do communities still need from the human sciences?

A few themes

- What do we know works well to promote resilience?
- How do we form better community-science partnerships?
- Where are there opportunities for improvement?
- How do we better synthesize, integrate, share, and apply this collective knowledge?

What works well to promote resilience?

- Focus on those most at-risk (e.g., aging, minority communities in low lying coastal areas)
- Focus on the community scale/collective action (requires individual buy-in & structural support)
- Invest in people on the ground – the knowledge and leaders are there!
- Super size what local coalitions are doing through the human sciences
- Design interventions grounded in practice
- Leverage best practice!
  - Use narratives and stories for change
  - Promote psychological flexibility/mindfulness, instill hope, focus on shared goals/values
- Shift from a focus on coping to transformation – requires different knowledge/science

What works well in forming partnerships?

- Meet communities where they are at (show up, shut up and bring food)
- Begin partnerships well in advance of a need (engage early and often)
- Co-create! The questions, the intended outcomes, the methods, the dissemination,…
- Include community members on the team for engagement – boundary spanners
- Recognize that expertise is contextual
- Earn trust by giving trust
- Offer science as a resource, not a solution

Where are the opportunities to improve?

- Integration
  - across the human sciences (e.g., multi level models)
  - between the human and natural sciences (e.g., respect and language)
  - between research and practice (e.g., time and energy)
- Scaling up – replicating success at the community level
- Bringing better spatial and temporal resolution in our data and approaches
- Better understanding the causal processes behind descriptive trends
- Being thoughtful about outcomes of interest, and the processes over time
- Accounting for diversity (in effects, disciplines, methods, experience, interpretation, etc)
- Better address community concerns and support/recognize community innovation

How to integrate, share and apply?

- Shift cultures and incentives in academia/science
- Do actionable, team science; engage in explicit translation
- Co-create!

  Human science solutions need ground-truthed and community successes need connected to theory for scaling
- Educate the workforce differently
- Conduct open science and share data – make it more accessible!
- Increase the focus on community-engaged and interdisciplinary science from funders
- Do more synthetic and cumulative work to identify what works in context
- Create safe spaces to address issues of inequity

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Next up…Panel 4: Climate Action and Community-level Partnerships

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Wrap-up Discussion

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Integrating the human sciences

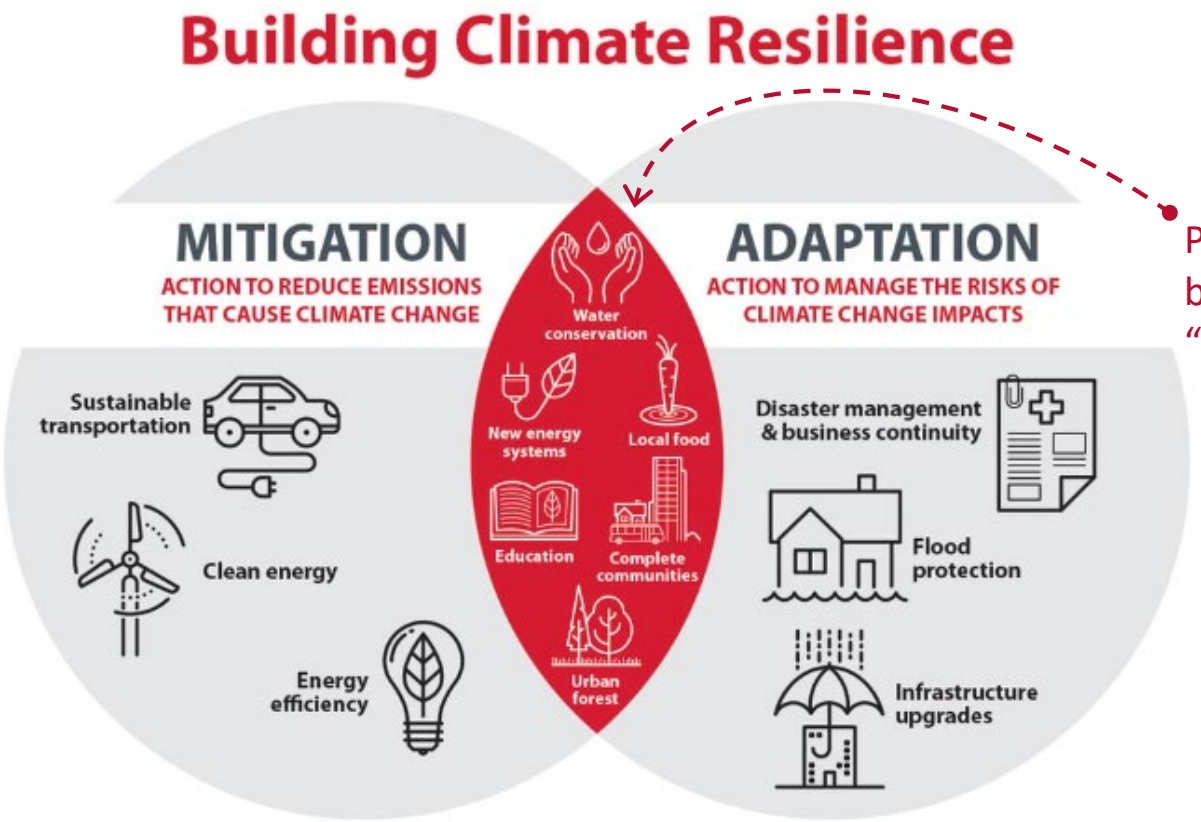
- Identifying synergy and overlap in lessons learned
- Identifying the most powerful drivers of change in context
- Understanding the dynamics between the scales at which we work
  - Individual, community, polity
  - Across time and space
- Building transdisciplinary approaches to doing the work

Scaling societal response

- Considering how action is influenced by factors across the socio-ecological system
- Considering the level of organization within the hierarchy where change occurs
- Considering spatial and temporal dynamics of action today (past and future)
- Considering how we can “supersize” the success stories for greater effect

A Social-Ecological Model for Physical Activity - Adapted from Heise, L., Ellsberg, M., & Gottemoeller, M. (1999)

Responding to environmental change



Pursue justice, improved power balance, and deep democracy to "bounce back better"

image from https://www.calgary.ca/UEP/ESM/Pages/Energy-Savings/Climate-Change.aspx?redirect=/climateprogram

Responding to environmental change

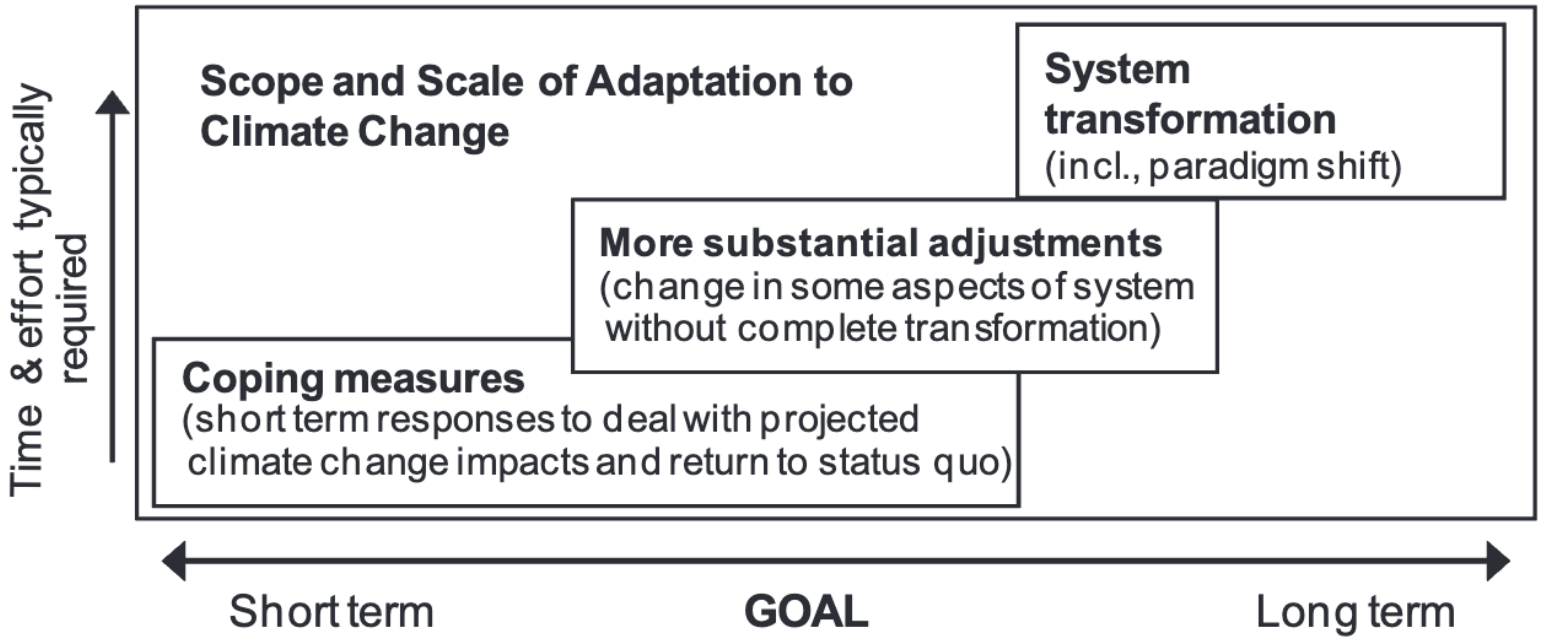


Fig. 1. Scope and scale of adaptation to climate change [based on an extensive literature review (ref. 14, especially refs. 15–18)].

Moser and Ekstrom. 2010, *PNAS*

A few thoughts…

- There is a lot of best practice on how to “integrate”
  - building science-community partnerships (e.g., engage early and often)
  - pursuing interdisciplinary science (e.g., multi-level models)
- There is a lot of best practice on how to “respond”
  - in human science (e.g., insights that are decades old)
  - In communities (e.g., empowered communities leading change)

A few thoughts…

- There is more agreement on how to promote resilience than we may think…
  - e.g., communicating threat and efficacy narratives for impact
  - e.g., empowering communities, cooperation within/between communities
  - e.g., framing climate as a health issue
  - e.g., adopting longer time perspectives
  - e.g., addressing inequity through action
- As well as lots of potential benefits for improved partnerships…
  - e.g, improved theories and evidence, new data sources, more relevant research, scalable lessons, avoiding maladaptive responses…

A few thoughts…

- What is stopping greater collaboration and shared learning?
- What is stopping widespread implementation?
  - The better integration of community practice and human science for change?
  - The “scaling up” or replication of success across communities?
- **How do we best move forward?**

Next steps for the coalition of the willing?

- Do actionable, team science; engage in explicit translation
- Accompany and co-create! (If you have a day…a month…a year)
- Embrace multiple types of knowledge/expertise – know your place
- Do more synthetic and cumulative work to identify what works in context
- Conduct open science and share data – make it more accessible!
- Better summarize (and make accessible) what we know works
- Focus on critical current questions – how do we empower people? How do we "scale up" (library of solutions)?
- What else???

Long term next steps for our systems?

- Shift cultures and incentives in academia/science
- Work toward greater representativeness in the research community
- Educate the workforce differently (coupled systems and DEIJ training)
- Increase funding for long-term, community-engaged and interdisciplinary science (centers, institutes)
- Adjust funding systems to embrace the reality of community engagement
- Build policy mechanisms that empower individual/community transformation while avoiding maladaptive responses
- What else???

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Questions? Additional next steps?

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