Setting ourselves up for success

Centering equity in engagement, resilience building, and hazard mitigation

Susanne C. Moser, Ph.D.

SUSANNE MOSER RESEARCH & CONSULTING

University of Massachusetts-Amherst & Antioch University New England

"Adaptation is a range.
Do you need to just move your car?
Do you have to put your washer and dryer on cinder blocks? Or do you need to get the heck out of town?"

Fred Brusso, former Norfolk flood manager

Source: Norfolk during Hurricane Dorian; *WAVY-TV*

"We absolutely cannot protect 200 miles of coastline."

George Homewood,
Planning Director of Norfolk, VA

Source: Northam; The Virginian Pilot

Source: https://www.visitvirginiabeach.com/

Source: Grace Beahm/The Post and Courier, via AP

Outline

- Thinking about “Use” and “Usefulness” of Science
- Being Relevant in a Fast-Paced, Difficult World
- Centering Equity in Engagement
- Tracking Success
- Q&A

Photo: Susi Moser

Thinking about "Use" and "Usefulness" of Science

Photo: McKinneMike

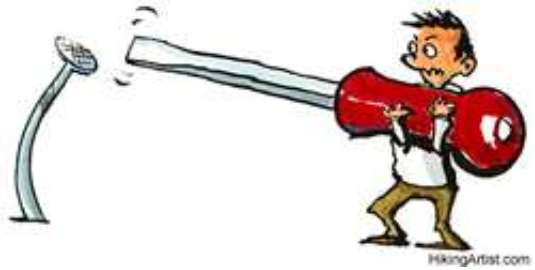
How might we be of use?

- **Providing benchmarks of the state of knowledge**
- **Fostering greater understanding of and engagement with** science
- **Improving relationships** between knowledge producers and users
- **Increasing usefulness and use** of information (while doing interesting science)
- **Supporting better decisions and outcomes** (i.e., making a tangible difference in the world such as more equitable adaptation)

Photo: Susi Moser

What is needed from science?

- **To be responsive**:



- **To be supportive**:

Source: photos1.blogger.com

Source: mirabiledictu.org

- **To be generative**:

- **To be critical:**

Source: etwritersguild.org

Source: Moser (2014)

What makes science “useful”?

– not the same to everyone!

- **SALIENCE**
  - Regional/local specificity
  - High resolution
  - Issue linkages
  - Timing and format
- **CREDIBILITY**
  - Whose experts?
  - Interaction among experts
  - Transparency of scientific/assessment process
- **LEGITIMACY**
  - Account of local concerns, values, needs, interests
  - Rules, procedures
  - Involvement in decision support process
- **EFFICACY**
  - The right decisions can be made more easily
- **ITERATIVITY**
  - Updates can be made easily, rapidly

Source: DWR

Source: Marin County

Sources: Cash et al. 2003; Mitchell et al. 2006, Farrell & Jäger 2005; Jones et al. 1999; Sarkki et al. 2015

Being Relevant in a Fast-Paced, Difficult World

Photo: Susi Moser

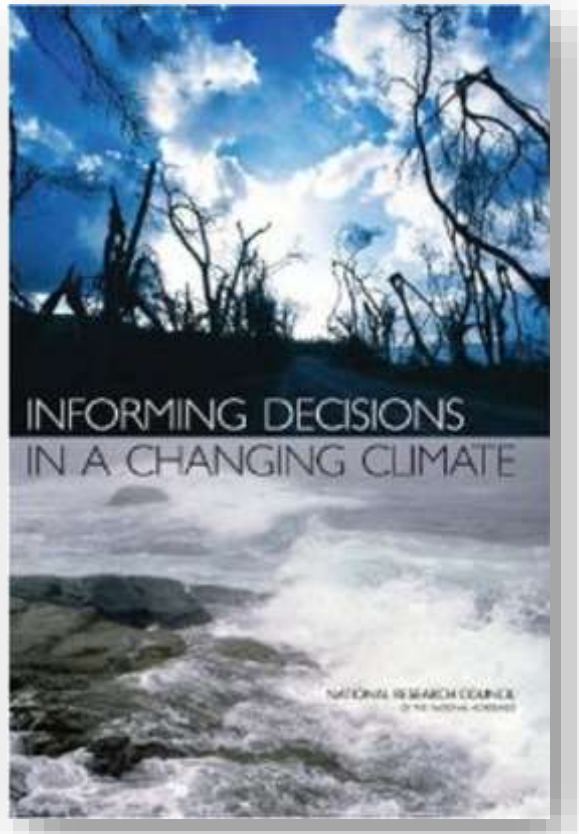
Conundrum

Growing need for “fast answers”

vs.

Growing need for “more time to understand”

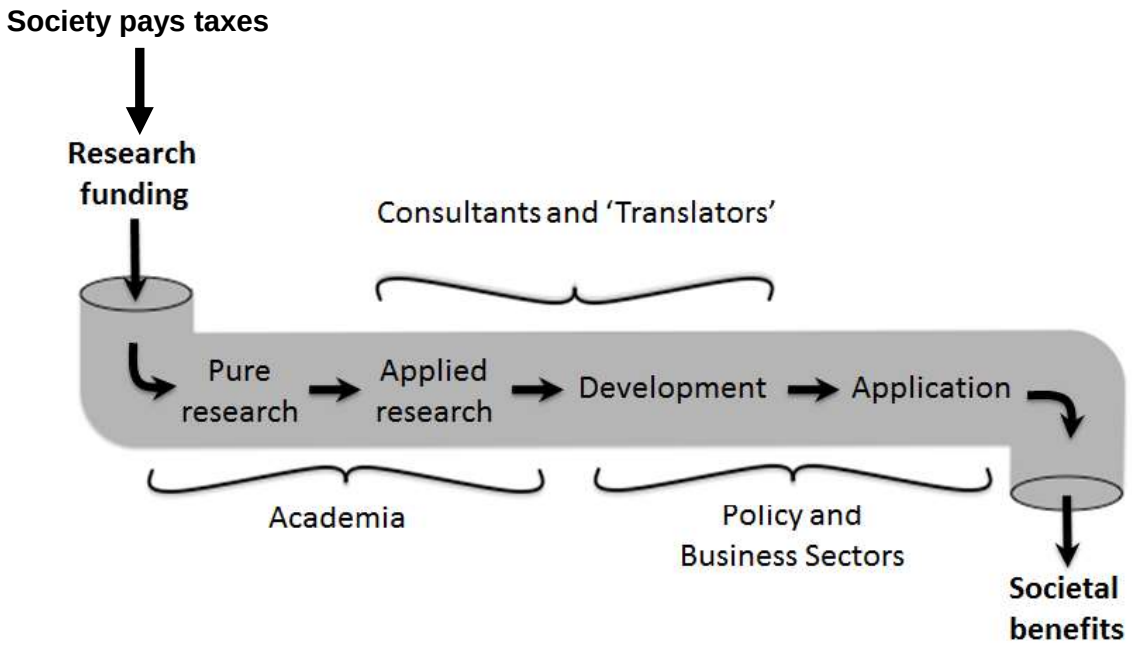
- **Risk of science becoming irrelevant to decision-making**
- **Risk of decisions being made uninformed or too late**



NAC (2009)

Research at the science-practice interface

The Briefest of Histories



The 'linear model' of science and society

Source: Adapted from Frans Berkhout (2014)

- Mode 1
- Vannevar Bush (1945) articulates a long-dominant social contract with science: "fund us, trust us, leave us alone"
- Assumptions
  - Basic (discovery-driven) science is the highest form of science
  - Research is benign, value-free
  - Knowledge production should not be incumbered by consideration of ultimate use
  - A sphere of knowledge separated from a sphere of non-knowledge
  - Slow diffusion to public via media, "translators", is sufficient

Research at the science-practice interface

The Briefest of Histories (cont.)

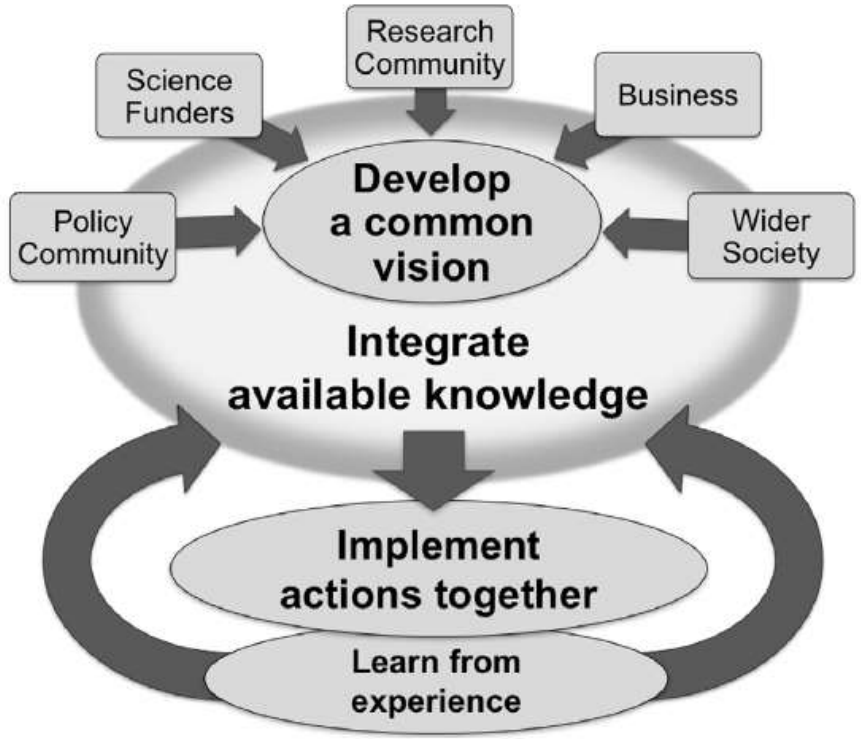


Fig. 1 – The knowledge arena: sustainability science as a collective learning process.

Source: Cowell et al. (2013)

- Mode 2
- Transdisciplinary/engaged/collaborative/ action-oriented research
- Co-design and co-production of knowledge
- Assumptions
  - Research is *always* influenced by values
  - Science becomes more useful and use becomes more likely through interactions with users
  - Decisions are “better” when informed by scientific knowledge
  - Existence of multiple knowledge systems/ spheres
  - Boundary between science and practice should be actively managed

Research at the science-practice interface

The Briefest of Histories (cont.)

Degree of interaction at the science-practice interface

- ***Linking*** (targeted dissemination of research results to users)
- ***Match-making*** (connect with users to frame research questions and interpret results)
- ***Collaborating*** (users and producers work together to identify research questions, project design, data collection and analysis, and develop products)
- ***Co-producing*** (empower and build capacity to generate/evaluate knowledge, integrate different knowledges)

Management of interaction at the science-practice interface

- ***Dedicated outreach capacity*** (may or may not involve researchers)
- ***Occasional engagement*** by researchers, outreach staff, or boundary organization
- ***Boundary individuals or organizations*** actively manage the interaction between researchers and information users
- ***Institutional structures and processes*** to enable ongoing engagement; roles of knowledge production and use shared

Source: Building on Klenk et al. 2015; doi: 10.1126/science.aab1495)

Selected lessons

The critical importance of relationships and time

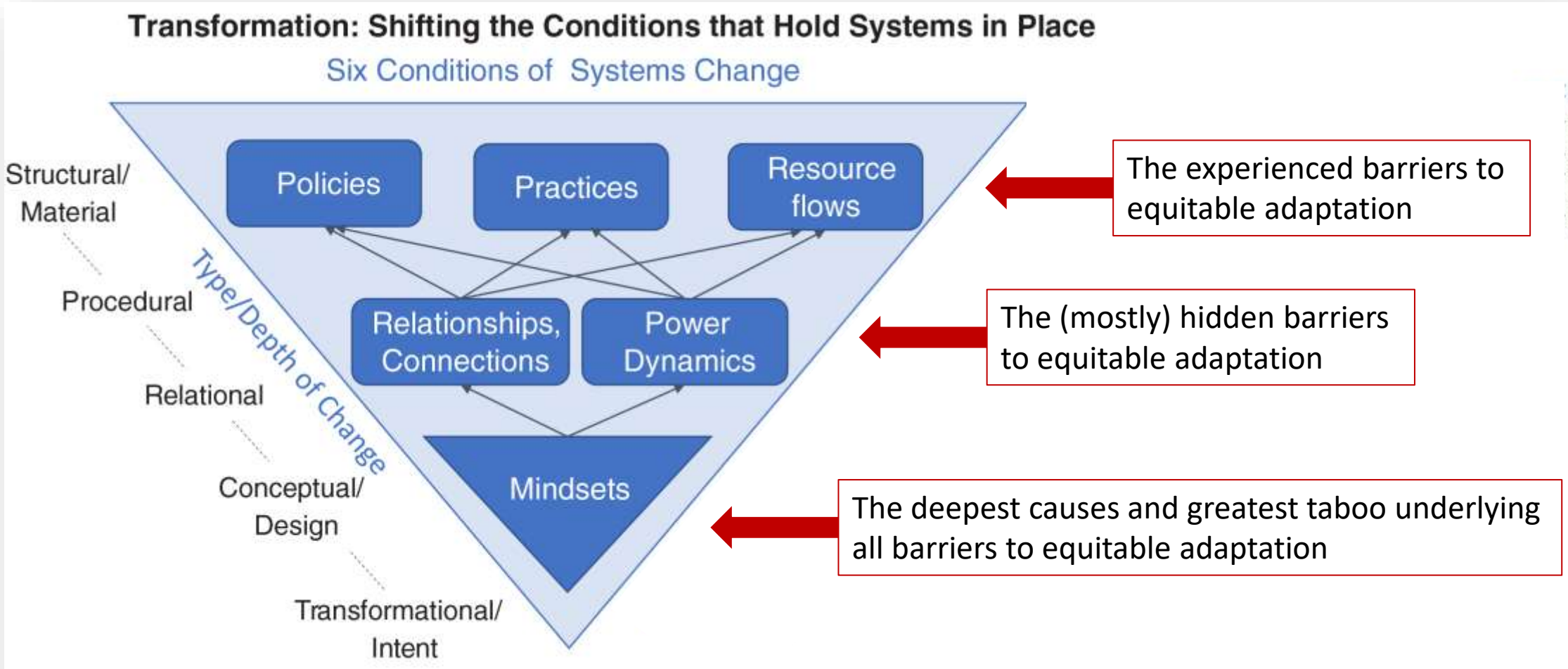
Centering Equity in Engagement

Source: uillinois.edu

The 7 A's of equity and justice in engagement

- **Access** to information
- **Ability to attend** meetings
  - Time
  - Childcare
  - Transportation & parking
  - Cost
- **Accommodation** for those facing challenges
  - Physical access
  - Accommodation for those with hearing/vision challenges
  - Trainings to enable full participation
- **Acknowledgement** of land, customs, culture, history
  - Appropriate honoring of original land ownership
  - Honoring of Native/tribal elders
  - Space/time for tradition/customs
  - Importance of food, gifts
  - Relationship building over efficiency and agendas
- **Attention** to epistemic justice
- **Alignment** of intent and meaningful engagement process
- **Aspiring** to anti-racist choices every step of the way

The underbelly of unsustainable & inequitable systems



Source: modified from Moser (2018) and Shi & Moser (2021)

Multiple steps to a hard decision: Adapt in place or relocate?

Must address the motivations and barriers to making (profound) change

Photo credit: The Virginian Pilot

RECOGNIZE INEVITABILITY OF PATH FROM IN SITU ADAPTATION TO RELOCATION

SEE VIABLE PATHWAY(S) TO VOLUNTARY & NECESSARY TRANSITION

RECEIVE SUPPORT & HAND-HOLDING THROUGH PLANNING

RECEIVE SUPPORT THROUGH IMPLEMENTING ADAPTATION

Source: Modified from Moss & Moser (2019)

Where and how to begin the conversation…

Know Thy Self (Supporter)

- Your feelings about loss and endings
- Your own fears of having this conversation
- Your ability to let go
- Any judgments you might hold
- Your need to be needed

Know Thy Audience(s) (Decision-Maker)

- Preferred language & taboos; culture
- Demographics & economics
- Positionality & ownership
- Attitudes (gov, CC)
- Social relations

Know Thy Stuff (Situation)

- Local geography
- Social, physical, ecological vulnerability
- History of place
- Experience with hazards
- What & so what of CC impacts
- Adaptation work to date
- Trauma-aware communication

Source: Moser & Watson (2021) training

Setting Yourself up for and Tracking Success

Source: osmanpek/stock.adobe.com

Why think about adaptation success? - Why measure progress?

Overarching: Responsibility for safeguarding people, economy, infrastructure, cultural assets, environment

1. **Communication and public engagement**
   - Communicating hope and desirable goal to work towards
   - Defining a common vision among diverse stakeholders
2. **Deliberate planning and decision-making**
   - Setting clear goals, aligning means and ends (internal consistency)
   - Best fit with other policy goals (external consistency)
3. **Justification of adaptation expenditures**
4. **Accountability/good governance**
5. **Support for learning and adaptive management**

Metrics -> policy & Policy -> metrics

- Metrics help
  - Tell strong stories to build support for policy
  - Strengthen strategies used to implement a policy
  - Track implementation of policy
  - Be accountable to voters, stakeholders, interested parties
  - Tell stories of progress on and success of a policy
  - Explain shortfalls

- Policy helps
  - Set vision of success (which guides ID of metrics)
  - Demand metric development
  - Demand adherence to standards
  - Put in place funding for monitoring & evaluation
  - Mandate rhythm with which metrics are collected/evaluated

Success metrics for what?

- **Goal 1: Tracking the performance of the adapting entity**
  - Is Agency A doing what it said it would do in its adaptation plan?
  - Is Politician B doing what she promised when she ran for office on equitable climate resilience?
  - Is Country C delivering on its pledge to pay $x billion for adaptation projects

Performance (whether?) • Input and Action-focused

- **Goal 2: Tracking the effectiveness of adaptation strategies**
  - Is the natural buffer working as designed/expected?
  - Was the setback sufficient to protect against expected storms?
  - Are disadvantaged communities receiving any benefits from x,y,z program?
  - Has public engagement improved?
  - Are we better prepared now?

Effectiveness (how well?) • Process, Action, Output and Outcome-focused

- **Goal 3: Tracking the extent of adaptation finance and actions**
  - Do communities have access to the funding, capacity, assistance they need?
  - Are we doing enough?
  - Are we focusing on all key risks/vulnerability hotspots?
  - Are we ready for the unexpected, cascading disasters, and/or compounding crises?

Adequacy (how much?) • Barriers, Input, Capacity, Outcome-focused

The *Resilience Metrics* toolkit:

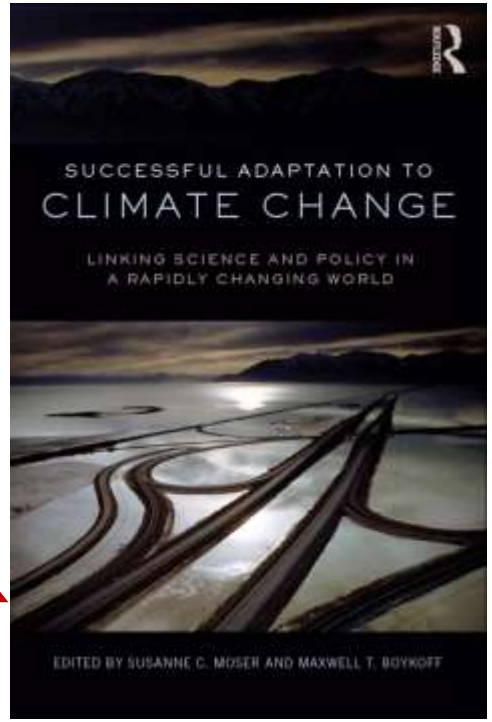
Drawing on 4 projects over 10 years

Identifying the Key Dimensions of Adaptation Success

Sea Grant
Washington
Oregon
California
University of Southern California

Book:

What do we know about successful adaptation?



SAIM Project with 5 Reserves: Indicators & Metrics

- **Wells**
- **Hudson**
- **Jacques Cousteau**
- **Tijuana River**
- **Kachemak Bay**

Catalyst project: Toolkit Development

Resilience Metrics

https://resiliencemetrics.org

Resilience Metrics

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MAIN MENU

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- + Adaptation & Resilience
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Welcome to Resilience Metrics!

Welcome to Resilience in the Face of Climate Change: Envisioning Success - Measuring Progress!

The information, tools, and resources offered here aim to be helpful to those who have embarked on the journey of addressing the challenges related to extreme climatic and weather events and changing environmental conditions.

If you are interested in preparedness, adaptation, and resilience-building for a changing climate, you are in the right place.

If you are wondering what "adaptation success" looks like and how you might track your progress toward it, we offer ways to think about that and tools to help you find tailored answers.

> **Our focus is on defining and tracking adaptation success and progress.**

For those interested in other adaptation-related topics and challenges, we point to related sites and tools along the way.

If you are ready to jump directly into working with indicators, click on the relevant icons. If you're not sure where to begin or find what you need, check out this **list of diagnostic questions, start at the Getting Started page** or take our **diagnostic quiz** to find your entry point.

If you are ready to jump in on the work of developing and using indicators and metrics, you can directly go here:

- Bounding and Assessing Context
- Visioning Success
- Exploring & Identifying Indicators
- Selecting Indicators & Identifying Metrics
- Tracking Indicators & Metrics
- Using Indicators & Metrics

Key lessons and take-homes

1. Equitable coastal resilience begins and ends with people
2. Equity is not an “add-on” but the central hub of all you do
3. The hard work of trust-building is the beginning, middle and end of working toward healing and repairing systems of inequity
4. You can get yourself set up for “success” (i.e. equitable resilience-building) by getting the process right and co-designing adaptation with those affected
5. Measuring progress and success, esp. on the deepest levers of change, builds trusts, helpful for communication, necessary for fund-raising, advances science, and is policy-relevant. Do it!

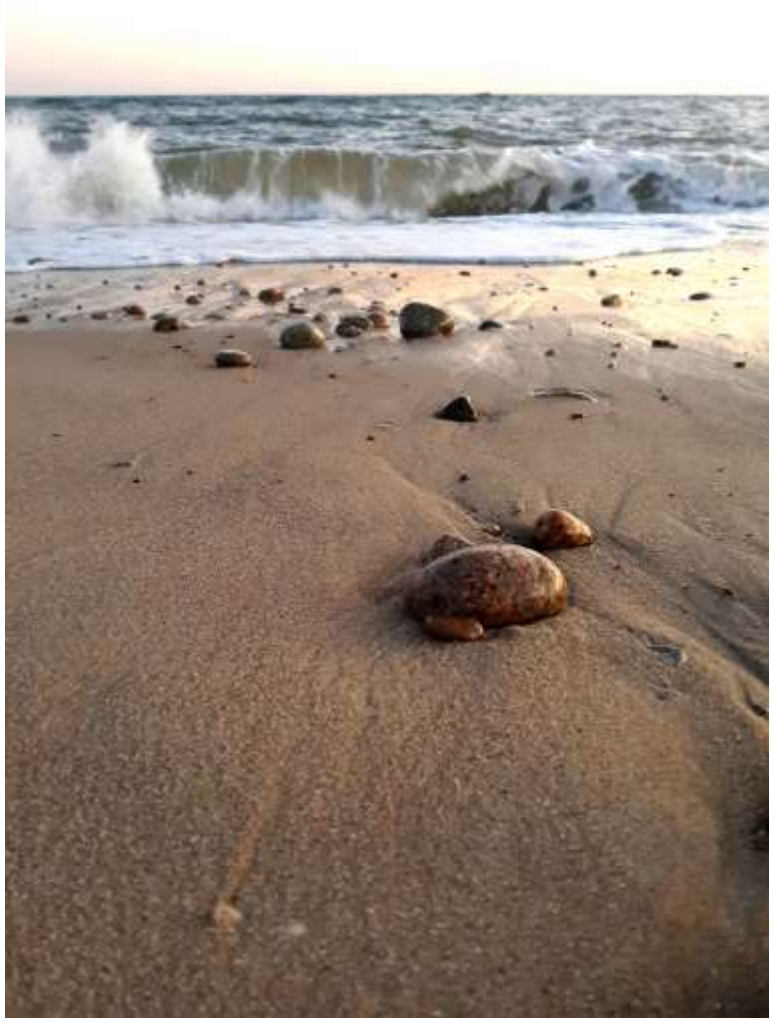

Photo: Susi Moser

Susi Moser, Ph.D.

Email: promundi@susannemoser.com
Web: www.susannemoser.com
LinkedIn: https://www.linkedin.com/in/susanne-moser-ph-d-8686943a/

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Thank you!

For additional comments, thoughts, questions, please contact me at:

Susi Moser, Ph.D.

Email: promundi@susannemoser.com

Web: www.susannemoser.com (access to papers relevant to this presentation)

LinkedIn: https://www.linkedin.com/in/susanne-moser-ph-d-8686943a/