



Dr. Susanne Moser is the project lead for the Successful Adaptation Indicators and Metrics project. She is Director and Principal Researcher of Susanne Moser Research & Consulting, in Santa Cruz, CA. She is also a Social Science Research Fellow at Stanford's Woods Institute for the Environment. Dr. Moser is a geographer by training (Ph.D. 1997, Clark University). She is an internationally recognized expert on adaptation – particularly in coastal areas, on climate change communication, and science-policy interactions. Dr. Moser has contributed to the Fourth and Fifth Assessment Reports of the IPCC, served as a Review Editor for the IPCC Special Report on *"Managing the Risks of Extreme Events and Disasters to Advance Climate Change Adaptation,"* and served on the Steering Committee for the Scoping Meeting of the IPCC's Special Report on *"1.5 Degrees of Global Warming."* In the Third US National Climate Assessment she served as a federal advisory committee member and was the convening lead author with the late Margaret Davidson for the coastal chapter. She regularly works with local, state and federal agencies, NGOs, foundations and other practitioners on climate change adaptation issues. Dr. Moser has been recognized as a fellow of the Aldo Leopold Leadership, Kavli Frontiers of Science, UCAR Leadership, Donella Meadows Leadership, Google Science Communication, and Walton Sustainability Solutions Programs.

Successful Adaptation Indicators and Metrics (SAIM)

The Successful Adaptation Indicators and Metrics project team is collaborating with reserve experts and their stakeholders to explore (1) what climate change adaptation success means in different locations, (2) what relevant actions and processes are needed to move toward desired goals, and (3) how to track progress manageably toward a common vision. The project team is also exploring how indicators and metrics can help coastal managers succeed in protecting the nation's valuable coastal habitats, resources, and human communities in light of environmental change. Insights gained from work with participating reserves are compared and regularly shared among reserves and others to distill larger lessons.

Collaborating Reserves to Date

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

Why This Work?

In the face of escalating impacts from climate change, the question of adaptation success is increasingly a practical and moral imperative. Policy- and decision-makers at any level, and the staff assisting them, need an answer because of their legitimate concerns over the long-term safety, prosperity, equity, and sustainability of their communities. Yet, it is also a very difficult question to answer.

Reserves, with all their direct work with local stakeholders, offers ample opportunities to advance the challenge of measuring adaptation progress and success. The project addresses questions such as: How do we know whether adaptation to climate variability and change is occurring, and whether the adaptive actions taken are good, useful, and effective? For how long, and for whom, does adaptation "work?" And how do we assess progress when the end point, i.e., final desired outcome of climate change adaptation, may not be apparent for many years and the baseline, i.e., environmental conditions, continually change? This project is intended to assist the National Estuarine Research Reserve System (NERRS) and the communities they serve to address these challenging questions.

Key Project Objectives

1. **NERRS-FOCUSED OBJECTIVE: HELP THE RESERVES**
 - Define "success" for their own purposes;
 - Develop useful, impactful indicators and metrics to track progress along adaptation pathways; and
 - Learn from other reserves using a multiple-site, comparative approach.
2. **BROADER OBJECTIVE: CONTRIBUTE TO SCIENCE & POLICY DEBATES**
 - Share lessons with regional partners, other reserves, coastal managers, and scientists faced with similar challenges; and
 - Contribute to the challenge of developing national adaptation indicators.

Outputs and Impacts to Date

- Workshops at each of the five collaborating reserves;
- Professional sharing sessions and exchange at NERRS/NERRA Annual Meetings;

- Presentations to interested parties beyond the NERRS, including the American Society for Adaptation Professionals and the National Academies of Science;
- One peer-reviewed publication; and
- Traceable impacts on reserves' work with local stakeholders (e.g., regular adaptation-focused meetings; new research projects; impact on local and regional planning).

Anticipated Accomplishments Over Next Two Years

- Working with additional reserves to launch the process of defining successful adaptation indicators and metrics in 2017-19;
- Scoping a proposed workshop across all participating and interested reserves focused on social indicators in 2018;
- Developing a resource to share approaches, ideas, lessons learned;
- Fostering a community of practice among reserves and others interested in tracking adaptation progress and effectiveness;
- Additional peer-reviewed publications; and
- Share findings, impacts and best practices at conferences and with interested audiences.



James Arnott supports Dr. Susanne Moser in the Successful Adaptation Indicators and Metrics project. He also supports Dr. Maria Carmen Lemos in researching drivers of science and technology usability and the NSC team in developing survey and evaluation materials. James is a Ph.D. candidate at the University of Michigan, and in his other life, serves as the associate director of the Aspen Global Change Institute. His expertise is on the interface between science, policy, and practice with a focus on climate change impacts, adaptation, vulnerability, and resilience. At AGCI, James manages the Institute's suite of global change science and outreach activities, including an annual interdisciplinary workshop series and various place-based and collaborative research projects. At the University of Michigan, James is completing a dissertation entitled, *Accelerating the Usability of Global Change Research*. In 2011, James was awarded the McCloy Fellowship in Environmental Policy. James received a B.A. in Political Science and Economics from Principia College.

