

Update Report

Period: 2/1/2014 - 1/31/2015

Project: R/COCC/SS-3 - Successful Adaptation: Identifying Effective Process and Outcome Characteristics and Practice-Relevant Metrics

STUDENTS SUPPORTED

No Students Reported This Period

CONFERENCES / PRESENTATIONS

Snover, A (2014) Preparing for a changing climate in Washington – what can we expect? (included timeline and dimensions of successful adaptation). Seattle Metropolitan Chamber of Commerce Community Development Roundtable, Seattle, 3 March 2014 (Audience 35)., public/profession presentation, 35 attendees, 2014-03-03

Snover, A (2014) Successful Adaptation to Coastal Climate Change: Insights from science and practice, Salish Sea Ecosystem Conference, Seattle, 2 May 2014 (Audience 45)., public/profession presentation, 45 attendees, 2014-05-02

Snover, A (2014) Coping with Climate Change: Parsing responsibility for urban adaptation (included dimensions of successful adaptation). Lincoln Institute of Land Policy 9th Annual Land Policy Conference, “Land and the City”, Cambridge Massachusetts, 3 June 2014 (Audience 40)., public/profession presentation, 40 attendees, 2014-06-03

Snover, A (2014) Anticipating and Preparing for Climate Change in the Pacific Northwest (included national security dimensions of successful adaptation for the PNW). The Intersection of National Security and Climate Change – What do Decision-makers Need to be Prepared? Symposium hosted by the Henry M. Jackson Foundation and Pacific Northwest National Laboratory (PNNL), Seattle, 4 June 2014 (Audience 35)., public/profession presentation, 35 attendees, 2014-06-04

Snover, A (2014) Shifting the Paradigm: Working Across Boundaries in a World of Certain Uncertainty (included organizational and leadership dimensions of successful adaptation). “Fire and Water: Implications of Climate Change for the Northwest” Executive Seminar Program hosted by Portland State University, Yakima, 22 October 2014 (Audience 35)., public/profession presentation, 35 attendees, 2014-10-22

Snover, A (2014) What Does Climate Change Mean for the NW? Science, impacts, preparation and resilience (included dimensions of successful adaptation – technically, ethically, individually, socially). “Climate Change in the Northwest” sponsored by the Sustainable Path Foundation, Town Hall, Seattle, 28 October 2014 (Audience 150)., public/profession presentation, 150 attendees, 2014-10-28

Snover, A (2014) Projected Climate Change Impacts in the PNW: Implications for Legislators (included timeline and dimensions of successful adaptation). Northwest Legislators Climate Policy Forum, Leavenworth, 8 December 2014 (Audience 25).,

public/profession presentation, 25 attendees, 2014-12-08

Moser, S (2014) Climate Change Adaptation Success: Special focus of the NERRS Science Collaborative. Webinar to NERRs. December 16, 2014. (Audience: 35), public/profession presentation, 35 attendees, 2014-12-16

Moser, S (2014) Climate Change Adaptation Success: Special focus of the NERRS Science Collaborative. Webinar to NERRs. December 14, 2014. (Audience: 35), public/profession presentation, 35 attendees, 2014-12-14

Moser, S (2014) Coast in the Crosshairs of Climate Change and SLR: Successful Adaptation in a Word of Constraints and Tradeoffs. Oral presentation at the Joint Conference of Restore America's Estuaries and The Coastal Society, Washington, DC. November 3, 2014. (Audience: 150), public/profession presentation, 150 attendees, 2014-11-03

Moser, S (2014) Successful Adaptation to Coastal Climate Change: Framework and Lessons from Across the Seas. Oral presentation at the Coast to Coast Conference, Western Australia. October 24, 2014. (Audience: 200), public/profession presentation, 200 attendees, 2014-10-24

Moser, S (2014) A Compass for Changing Times: Key Dimensions of Adaptation Success. Oral presentation at the California Adaptation Forum, Sacramento, CA. August 1, 2014. (Audience: 80), public/profession presentation, 80 attendees, 2014-08-01

Moser, S (2014) A Compass for Shifting Sands: Key Dimensions of Successful Adaptation to Coastal Climate Change. Keynote Address at the H2O Conference, San Diego, CA. May 27, 2014. (Audience: 100), public/profession presentation, 100 attendees, 2014-05-27

Moser, S (2014) In Search of a Few Good Indicators: If you were asked to develop measures of "successful" adaptation to climate change. Oral presentation at the Roger E. Kasperson Honorary Symposium, Tilghman Island, Maryland. May 12, 2014. (Audience: 25), public/profession presentation, 25 attendees, 2014-05-12

Moser, S (2014) Successful Adaptation to Ensure Sustainability: The Scale and Cross-Scale Dimensions. Oral presentation at the Annual Meeting of AAG, Presidential Plenary, Tampa, Florida. April 9, 2014. (Audience: 50), public/profession presentation, 50 attendees, 2014-04-09

Moser, S (2014) The Geography of Success: Successfully Adapting to Climate Change (and the End of Football). Oral presentation at the Annual Meeting of AAG, Presidential Plenary, Tampa, Florida. April 8, 2014. (Audience: 1,000), public/profession presentation, 1000 attendees, 2014-04-08

Moser, S (2014) Climate Change in Paradise: Communicating Adaptation (included challenge of communicating success). Oral presentation at the Social Coast Forum, Charleston, South Carolina. February 19, 2014. (Audience: 50), public/profession presentation, 50 attendees, 2014-02-19

ADDITIONAL METRICS

P-12 Students Reached:	0	P-12 Educators Trained:	0
Not relevant to project.		Not relevant to project.	
Participants in Informal Education Programs:	0	Volunteer Hours:	0
Not relevant to project.		Not relevant to project.	
Acres of coastal habitat protected, enhanced or restored:	0	Resource Managers who use Ecosystem-Based Approaches to Management:	0
Not relevant to project.		Not relevant to project.	
Annual Clean Marina Program - certifications:	0	HACCP - Number of people with new certifications:	0
Not relevant to project.		Not relevant to project.	

ECONOMIC IMPACTS

Description	Patents	Market	Non-Market	Business	Business	Jobs	Jobs
		Impacts (\$)	Impacts (\$)	Created	Retained	Created	Retained
None. [Not relevant to project.]	0	0	0	0	0	0	0

SEA GRANT PRODUCTS

Description	Developed?	Used?	ELWD?	Number of Managers	Names of Managers
Framework for developing indicators of successful adaptation to climate change, based on the six	Yes	No	No	0	

dimensions of success					
Framework for defining and setting targets for successful adaptation to climate change	Yes	Yes	No	No	0
Three case studies (one each for WA, OR, CA) that demonstrate a particular dimension of successful adaptation to climate change	Yes	No	No	No	0

HAZARD RESILIENCE IN COASTAL COMMUNITIES

Name of coastal community	County	Number of resiliency trainings / technical assistance services provided	Was community hazard resiliency improved (e.g., via changes in zoning ordinances) ?
		0	No

ADDITIONAL MEASURES

Number of stakeholders modifying practices: 0	Sustainable Coastal Development
None.	<p># of coastal communities: 0</p> <p>None at this time. Our expectation is that the information developed through this project will lead to decisions that are more sustainable (as defined here) in the face of projected climate change impacts. However, our current project is not designed to track the use of this guidance in decision making and the outcomes of those decisions.</p>

PARTNERS

Partner Name: California Sea Grant

Partner Name: Institute for Sustainable Communities

Partner Name: Oregon Sea Grant

Partner Name: Oregon State University (OSU)

Partner Name: Stanford University

IMPACTS AND ACCOMPLISHMENTS

Title: **Washington Sea Grant research develops a framework for evaluating climate-change adaptation and nationally used measures of successful adaptation**

Type: accomplishment

Description:

Relevance: Climate change is expected to have wide-reaching environmental, economic, and social impacts on West Coast communities. As they prepare, community managers and planners ask, “What would successful adaptation to climate change look like? How do we know if we’re making progress?” Evaluation of adaptive action is particularly necessary to prove progress amidst competing policy priorities and ever-tightening government budgets.

Response: With support from the West Coast Sea Grant programs, the project brought together scientists, climate adaptation practitioners, and coastal management professionals to explore adaptation outcomes, processes, and mechanisms. Participants examined ways that communities can measure their immediate and long-term progress toward adaptation. Researchers analyzed and integrated insights collected from three state-level workshops and one tri-state capstone session exploring successful adaptation measures and the key elements they share. They used their findings to compose a framework for evaluating future adaptation measures.

Results: The project developed worksheets and other tools that are already being used to advance adaptation planning on a national scale: Team members have conducted training on successful adaptation strategies at the National Adaptation Forum. And leading cities in the national Urban Sustainability Directors’ Network are using the tools for evaluating successful adaptation that this research developed.

Recap:

Recap: Sea Grant-funded research brought coastal managers, scientists, and adaptation practitioners together to define successful adaptation, producing tools that are nationally applicable.

Comments:

Primary Focus Area: COCC (SCD)

Secondary Focus Area: COCC (HRCC)

Associated Goals: Improve capacity to manage ocean and coastal ecosystems and resources for societal benefit under changing climatic and demographic conditions. (SCD, Efficiency)

Improve understanding of coastal hazards and environmental change and develop tools and approaches for observation, prediction, planning, and adaptation. (HRCC, Capacity)

Partners:

California Sea Grant

Institute for Sustainable Communities

Oregon Sea Grant

Oregon State University

Stanford University

Related Partners: *none*

PUBLICATIONS

No Publications Reported This Period

OTHER DOCUMENTS

No Documents Reported This Period

LEVERAGED FUNDS

No Leveraged Funds Reported This Period

UPDATE NARRATIVE

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UPDATE (PROGRESS) REPORT NARRATIVE – Year 3

Project: R/COCC/SS-3 - *Successful Adaptation: Identifying Effective Process and Outcome Characteristics and Practice-Relevant Metrics*

Project Overview

What is successful adaptation to climate change in the coastal context? This is a question frequently asked by practitioners, yet one that has no easy scientific or political answers. While adaptation is increasingly recognized as an important climate risk management strategy, and on-the-ground adaptation planning activity is beginning to emerge everywhere, resource managers and planners have no clear guidance as to what success would look like. Success raises vexing management challenges and complex scientific questions about how to identify desirable outcomes and mechanisms across spatial/temporal scales, ecological systems, and social strata.

The Successful Adaptation project addresses these questions by engaging scientists and coastal practitioners in an iterative, collaborative exploration of adaptation outcomes, processes and mechanisms, and the metrics with which to measure success in coastal communities in California, Oregon and Washington. The project contributes to Sea Grant’s cross-cutting goals by integrating multi-disciplinary scientific and practitioner expertise to facilitate social learning and improve the management of coastal human-natural systems under rapidly changing conditions.

This work will inform West Coast state efforts to develop regionally consistent *and* state-based adaptation strategies, as well as inform the guidance states are developing for local coastal practitioners across the region. Project beneficiaries include regional policymakers, coastal practitioners and stakeholders; national coastal stakeholders and adaptation professionals; local, state, federal and tribal policymakers; the National Climate Assessment and other adaptation groups.

Activities and Impacts

Project Synthesis. The project team began analyzing the results of workshops held in 2013 in Newport, Oregon (Oregon practitioners workshop), Seattle, Washington (Washington practitioners workshop), and Palo Alto, California (capstone workshop) (see Year 2 Progress Report), and combining those insights with knowledge gained from the literature review.

The workshops and literature review have increased our understanding of the multi-dimensional aspects of defining success. At a fundamental level, how you define success, who to involve, and which trade-offs need to be addressed depends on how you interpret the goals of adaptation. Are adaptation actions, for example, intended to:

- Maintain physical and social integrity “as is” by maximizing loss reduction at minimal cost (i.e., a structural adaptation framework);
- Create a better world for all by reducing vulnerability, minimizing social inequity, and increasing adaptive capacity (i.e., a vulnerability framework); or
- Enhance overall system capacity to persist and minimize risk of collapse (i.e., a resilience framework)?

These distinct frameworks are described within adaptation literature but are rarely articulated by practitioners, whose framing of adaptation actions and goals are driven largely by job descriptions, agency missions, and personal values.

The project has also highlighted the need to see adaptation as an evolutionary process, due principally to the uncertainty, long time horizons, and ongoing change that characterize climate change impacts and adaptation responses. As a result, successful adaptation requires attention to process as much as outcomes. More specifically, successful adaptation requires ensuring processes that are transparent, fair, accountable, iterative, compensatory, and able to support the need to process loss and grief when impacts cannot be avoided (e.g., loss of culturally significant site or personally important places or activities).

Plans to produce seven papers for a special issue of *Global Environmental Change* were modified in the interest of time and budget. The team has outlined the final synthesis paper and is working on the manuscript for submission to *Global Environmental Change*. The paper will cover the following:

1. Successful Adaptation to Climate Change in Coastal Environments: An Introduction
2. Successful Adaptation: Insights from the Scientific Literature
3. Methodology: Transdisciplinary, multi-methods approach to project
4. Results
 - 4.1 Deepening Interdisciplinary Perspectives on Success: Insights from Scientists
 - 4.2 Successful Adaptation in Coastal California
 - 4.3 Successful Adaptation in Coastal Washington
 - 4.4 Successful Adaptation in Coastal Oregon
 - 4.5 Integrating Scientific and Practitioner Perspectives
 - 4.6 Discussion: Limitations of our study
5. Synthesis
 - 5.1 Reasons to Think about Adaptation "Success"
 - 5.2 Key Dimensions of Adaptation Success: Each Necessary, but Insufficient Components
 - 5.3 Toward Meaningful Measures of "Success"
 - 5.4 Conclusions and Path Forward

P/Vodcasts and project website. Video interviews filmed during the 2012-13 workshops were reviewed. Use of the material for the project website and continued education and outreach related to the project is being discussed by the project team. As noted in the following section, some of the video material gathered during project workshops has been used by Joe Cone for three other videos. See: <http://blogs.oregonstate.edu/breakingwaves/?p=3177> (project partners are featured).

Spin offs and other efforts where the Successful Adaptation project is making a difference: while the project team is currently focusing on preparation of the final manuscript, the Successful Adaptation project is already making a difference in coastal resilience planning, as illustrated in the following examples for this reporting period:

1. Many different audiences have been reached, nationally and internationally, in the coastal sector and beyond, through the many presentations listed in the online database for our annual report (~3000 people at least to date)
2. PI Susi Moser is working on several other projects where the framework is proving helpful:
 - a. Work with the Pacific Islands Climate Change Cooperative (PICCC, one of USFWS's Landscape Cooperatives), which is trying to define success for its cultural-ecological adaptation efforts in Hawaii and the Pacific Islands
 - b. Work with the Pacific Regional Integrated Sciences and Assessment (RISA) center, which is trying to assess its impact on making Hawaii more resilient to climate change impacts, particularly in the water sector
 - c. Work with the University of Michigan-based Science Collaborative of the National Estuarine Research Reserve System, which has a 5-year grant from NOAA to support the NERRS across the country. Part of the success in getting the grant was Moser's collaboration with the University of Michigan team. Moser is leading a multi-reserve, comparative project focused on identifying and tracking indicators and metrics of adaptation success.
 - d. Moser is serving as a technical advisor to a Kresge funded project conducted by Stratus Consulting looking at community-based adaptation across the US, to identify what helps/hinders them in progressing. The framework was presented to the research team to help shape their thinking. Adams serves as the chair of the Project Advisory Committee for this project.
 - e. Moser also serves as an advisor to another Kresge funded project conducted by NDGAIN on urban adaptation indicators.
3. Moser has urged the State of California (through presentations and review comments on document drafts) to consider – in its 5-year strategic research plan, as well as in the scope of its fourth climate change assessment – conducting research on adaptation success indicators.
4. Moser conducted a training for California's state agency leaders involved in coastal management on how to think about adaptation success. The first step was a visioning process. In parallel, she worked with a range of colleagues on a Policy Brief, recommending ways to implement A.B. 2516 in harmony with the developed vision of adaptation success (Herzog, Moser and Newkirk, 2015; *Tracking Coastal Adaptation: Implementing California's Innovative Sea Level Rise Planning Database*. Policy Brief No.7, Pritzker Environmental Law and Policy Brief Series, Emmett Institute on Climate Change & the Environment, University of California-Los Angeles). A.B. 2516 is a law, passed in 2014, requiring the California Ocean Protection Council to develop a database on coastal adaptation efforts in the state.
5. Adams presented project outcomes at an Institute for Sustainable Communities (ISC) Climate Leadership Academy “Think Resiliently, Act Locally” event in Alexandria, VA on October 14-16, 2014. The event brought together teams from the five existing metro-regional collaboratives (San Diego, Los Angeles, Bay Area, Sacramento, Southeast Florida) along with 7 other aspiring regional collaboratives (Puget Sound, Boston, Washington, DC, Twin Cities, Jacksonville, FL,

California Sierra Nevada and the New England states) to build capacity and explore best practices through peer learning on the state of the art in metro-regional climate adaptation governance. (<http://sustainablecommunitiesleadershipacademy.org/workshops/act-regionally>).

6. Several publications will result from the project. At least these:
 - a. Joint publication of all project partners – project synthesis paper for *Global Environmental Change*
 - b. An Op-Ed in *SciDev.net* on the difficulty of defining meaningful, impactful indicators of adaptation success (<http://www.scidev.net/global/climate-change/opinion/better-climate-change-adaptation-indicators.html>)
 - c. A book chapter on successful adaptation indicators (authored by Moser, to appear in Kaspersen et al, *Risk Conundrums*, forthcoming from Earthscan).
7. While the Successful Adaptation Project was going on, Moser and Boykoff finalized the edited volume on successful adaptation (Routledge 2013). The book and this project's literature review influenced each other. The book has been awarded the Outstanding Academic Publication of 2014 award by *Choice Reviews*.
8. Some of the video material gathered during project workshops has been used by Joe Cone for three other videos. See: <http://blogs.oregonstate.edu/breakingwaves/?p=3177> (project partners are featured).
9. Moser has been asked to present the project during a performance review of the USC Sea Grant Program (June 2015), as a high-impact project to illustrate "how our research investments matter to policy and decision makers, and how we are viewed by the research community for our management of the program."
10. The project partners are planning a 3-hour training session on the successful adaptation framework and indicators at the Second National Adaptation Forum, May 12-14, 2015 in St. Louis, MO. Session has been accepted.
11. The project's synopsis of components of successful adaptation and how to consider an evolutionary approach were used by a consortium of U.S. Urban Sustainability Directors' Network members (led by Washington D.C.) to frame their USDN-funded cross-jurisdictional project to help USDN cities develop adaptation-related metrics and indicators for their projects.