

Transitional States in Marine Social-Ecological Systems: challenges, risks, and opportunities

Philip Loring, Joshua Cinner

Coastal and living marine resources support the diets and livelihoods of billions, yet they face significant threats from all stations. The Gulf of Mexico oil disaster, and its impacts on communities still stressed by the legacy of Hurricane Katrina, are a somber reminder that numerous drivers and agents of change play roles in the state of the world's oceans and fisheries, of which climatic change is only one. The impacts of these drivers on coastal communities can be synergistic and non-linear, usually involving complex feedbacks and interactions between local, regional and global scales. A vulnerability approach provides a framework for thinking about these complex interactions through a human lens. When coupled in novel ways with social and ecological theory, vulnerability frameworks can be a powerful tool for understanding how impacts are likely to vary over space and for different people within a society (for example, the poor or migrants are often more vulnerable), and for finding opportunities for people to effectively and sustainably adapt to their changing world.

This panel falls within the first theme of Resilience 2011: "Adaptation, resilience, vulnerability, and coping with change in social-ecological systems." The panel offers a unique cross-regional synthesis by bringing together experts of arctic and tropical marine social-ecological system. 20 minute presentations by panel members McClanahan, Loring, and Cinner will highlight emerging themes in the human dimension of changes to coastal and marine systems from each zone, including both vulnerabilities and opportunities for action and policy that move beyond the tried-but-tired paradigm of mitigation.

Dr. Tim McClanahan of the Wildlife Conservation Society will set the context with his presentation, "The ecological dimensions of vulnerability in fisheries." Next, Dr Joshua Cinner will present "How aspects of vulnerability influence amplifying or dampening exploitation feedbacks among Tanzanian fishers," to be followed by Dr. Philip Loring's "Fisheries rationalization, climatic changes, and adaptability in the Bering Sea". A note taker will also be enlisted to attend the entire session, with the intent being the possible production of an outline for a working paper or edited volume of papers.

Following the presentations, an interactive group discussion will be facilitated by McClanahan with extensive audience participation. This portion will have two rounds. In the first round, the audience will be solicited for short, written questions (written during the initial presentation), for which any panel member will have at most 3 minutes to answer and two others will have one minute to add comments or rebuttal. 4-5 questions will be fielded in this manner. In the second buy/sell round, 5

debated and/or controversial topics (e.g., marine spatial planning, individual fishing quotas, etc.) will be presented to the panel members, who each have one minute to buy or sell the idea (be for or against it) with a brief explanation of their rationale. These topics will be chosen by the senior moderator during the panel presentations and first round of Q&A

Panel Participants and papers:

Aaron MacNeil - "Key Concepts and an Introduction to Arctic, Temperate, and Tropical Systems"

Joshua Cinner - "Linking social science and ecology to understand the vulnerability of coastal societies to changes in coral reef resources"

Philip Loring, S. Craig Gerlach, Maribeth Murray- "Transitions in Arctic Fisheries: Challenges, Risks, and Opportunities"

Martin Robards