# BOARD ON ENVIRONMENTAL CHANGE AND SOCIETY









Presentation by: Meredith A. Lane

Presentation for: CESU Network

Presentation date: 11 July 2013



#### **BECS Mission:**

### Science to Manage Environmental and Social Transitions

- Increase problem-focused understanding of coupled human-environment systems
- Inform transitions to improved human well-being in the face of environmental change

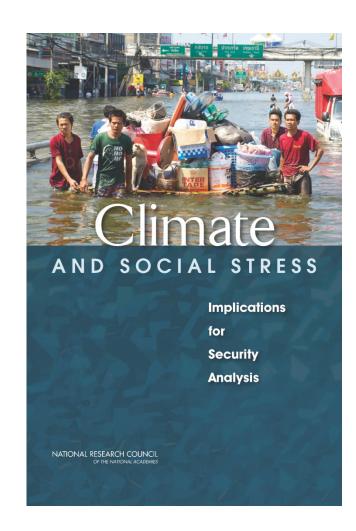


# Climate and Social Stress: Implications for Security Analysis

Committee on Assessing the Impacts of Climate Change on Social and Political Stresses

Download full report from NAP website: <a href="http://www.nap.edu/catalog.php?record\_id">http://www.nap.edu/catalog.php?record\_id</a> = 14682

Download Report Brief from BECS website: <a href="http://www.nationalacademies.org/BECS">http://www.nationalacademies.org/BECS</a>





#### **Committee Membership**

JOHN D. STEINBRUNER (Chair), University of Maryland

OTIS B. BROWN, North Carolina State University

ANTONIO J. BUSALACCHI, JR., University of Maryland

DAVID EASTERLING, National Oceanic and Atmospheric Administration, Asheville, NC

KRISTIE L. EBI, Stanford University

THOMAS FINGAR, Stanford University

LEON FUERTH, National Defense University & George Washington University

SHERRI GOODMAN, CNA Analysis and Solutions, Alexandria, VA

ROBIN LEICHENKO, Rutgers University

ROBERT J. LEMPERT, RAND Corporation, Santa Monica, CA

MARC LEVY, Columbia University

DAVID LOBELL, Stanford University

RICHARD STUART OLSON, Florida International University

RICHARD L. SMITH, Statistical and Applied Mathematical Sciences Institute, Research Triangle Park, NC

PAUL C. STERN, *Study Director*JO L. HUSBANDS, *Scholar* 



# **Contents of Report**

- 1. Climate Change as a National Security Concern
- Climate Change, Vulnerability, and National Security: A Conceptual Framework
- 3. Potentially Disruptive Climate Events
- How Climate Events Can Lead to Social and Political Stresses
- 5. Climate Events and National Security Outcomes
- 6. Methods for Assessing National Security Threats

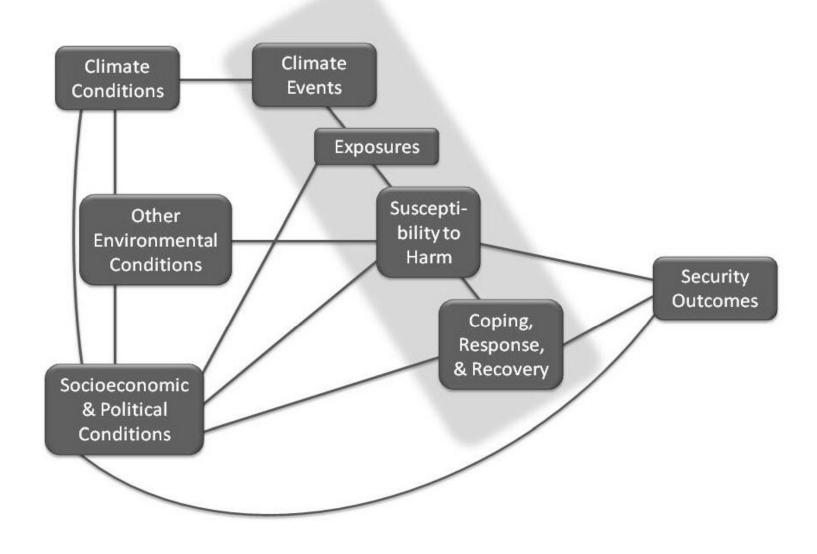


#### Three areas of focus

- Social and political stresses outside the USA
- Events that exceed the capacity of affected countries or populations to cope and respond (i.e., disruptive events)
- Risks that call for action in the coming decade



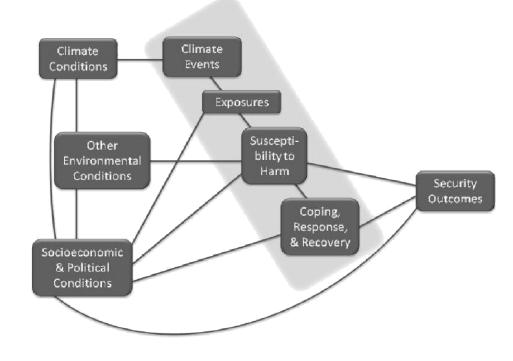
# Conceptual framework: Links of climate events to outcomes of security concern





#### Some basic conclusions

The overall risk of disruption is determined by the interplay of

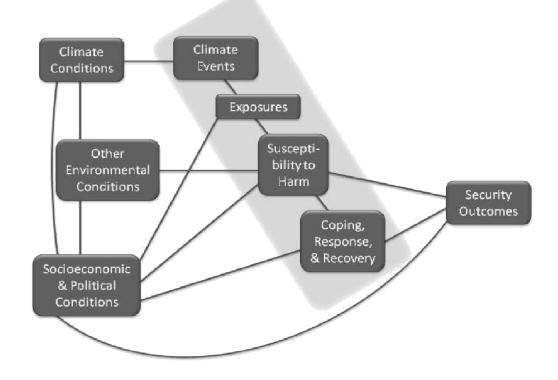


- event severity,
- exposure of people or valued things, and
- vulnerability of those people or things, including susceptibility to harm and the effectiveness of coping, response, and recovery



#### Some basic conclusions

Exposure
and
vulnerability
may pertain



- to direct effects of a climate event, or
- to effects mediated by globalized systems that support the well-being of the society



### Expect to be surprised

- ...it is prudent for security analysts to expect climate surprises in the coming decade, including
- Single events that were once considered rare
- Simultaneous or sequential conjunctions of events that stress response capacity
- Shocks to globally integrated systems (e.g., food supply, strategic commodities, public health)
- Impacts occurring far from triggering events



# Expect to be surprised

- The surprises are most likely to result from the interaction of climate events and social circumstances
- Troublesome interactions can be expected to become progressively more serious and more frequent over time, probably at an accelerating rate



# Need for stress-testing

- The intelligence community should establish a system of periodic stress-testing for countries, regions, and critical global systems regarding their ability to manage potentially disruptive climate events of concern
- Stress-tests would focus on potentially disruptive conjunctions of climate events and socioeconomic and political conditions



# Need for monitoring

Develop a systematic and enduring whole-ofgovernment strategy for monitoring threats connected to climate change in order to inform choices about reducing vulnerability

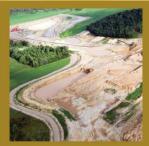
- Build the scientific basis for indicators of climate event risks, exposures, vulnerabilities, and factors linking these to societal and security outcomes
- Develop and periodically update priorities for highresolution monitoring
- Integrate quantitative indicators with traditional analytical methods

# BOARD ON ENVIRONMENTAL CHANGE AND SOCIETY









www.nationalacademies.org/BECS