

The National Academies of
SCIENCES • ENGINEERING • MEDICINE



DIVISION OF BEHAVIORAL AND SOCIAL SCIENCES
AND EDUCATION

Sustainability Roundtable

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Executive Director

July 31, 2019

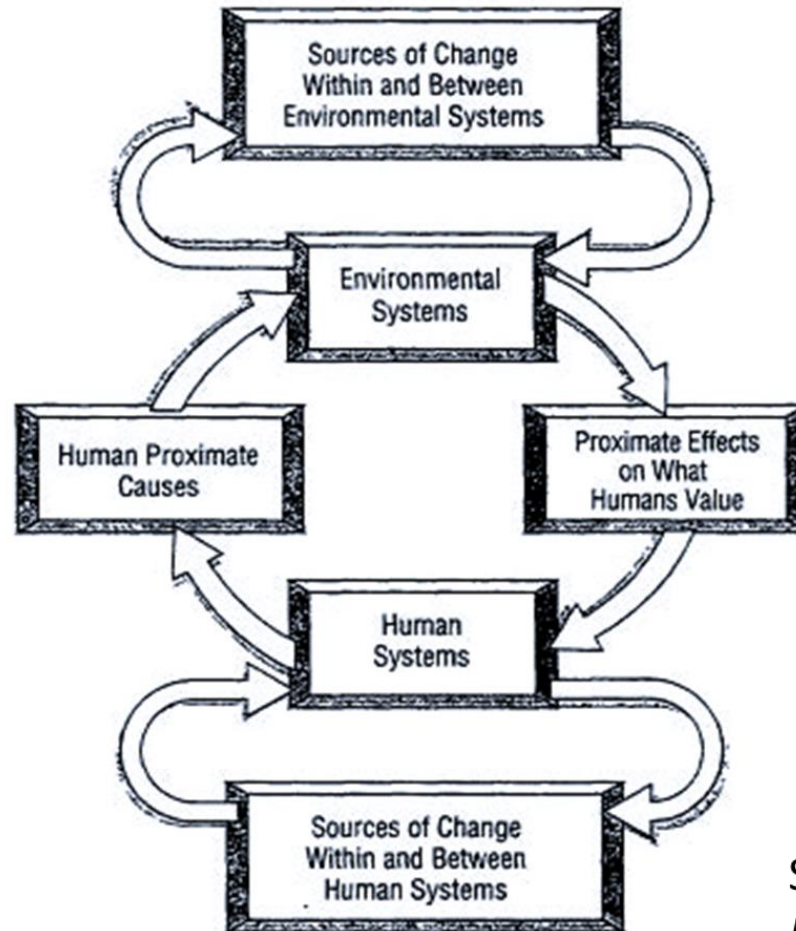


Sustainability Science

- Use-inspired research
- Focus on:
 - Understanding human-environment interactions
 - Linking knowledge to action
- Interdisciplinary approaches
 - Natural and social scientists
 - Scientists and practitioners

Source: Fang, etal, Sustainability, 2018

A Core Element of Sustainability is the interactions between human and environmental systems



Source: NRC. *Global Environmental Change* (1992, from Clark 1988)

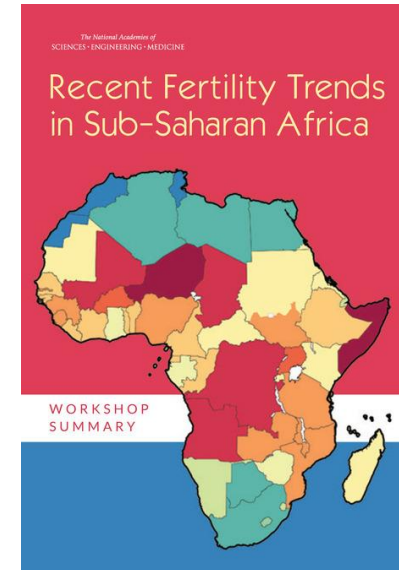
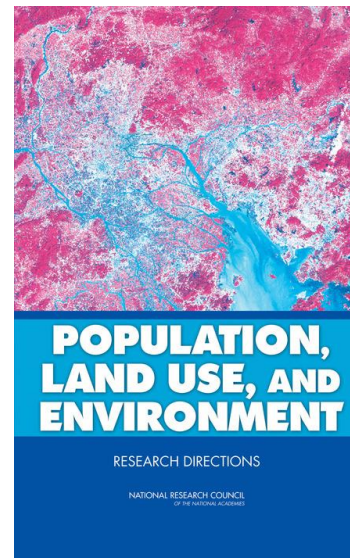
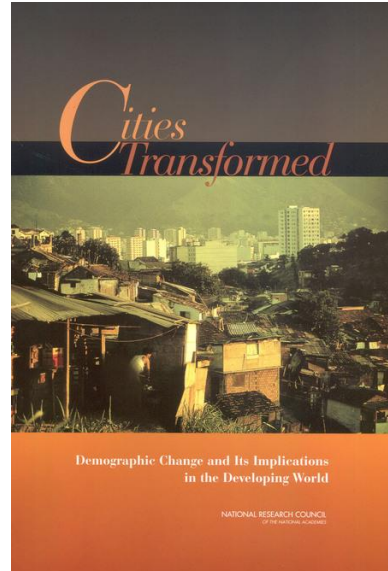
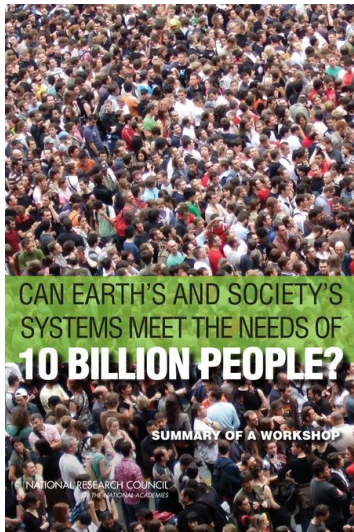
Role of the Social and Behavioral Sciences in Relation to Environmental Change

- Human causes
 - Population and economic changes; consumption practices; attitudes and beliefs; the built enviro.
- Human consequences
 - Inequality and social conflict; social and economic conditions
- Human understanding
 - Human-environment interactions
 - Science learning and education

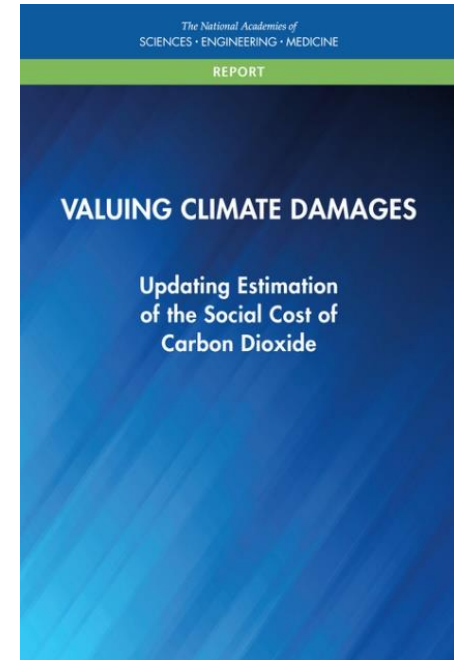
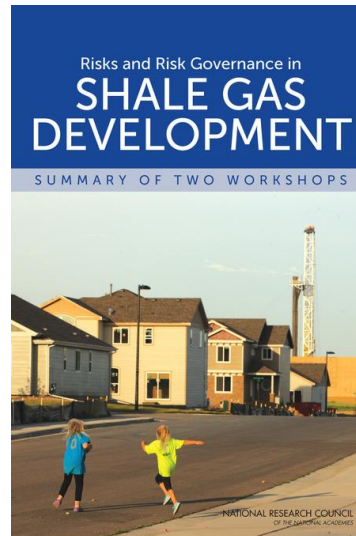
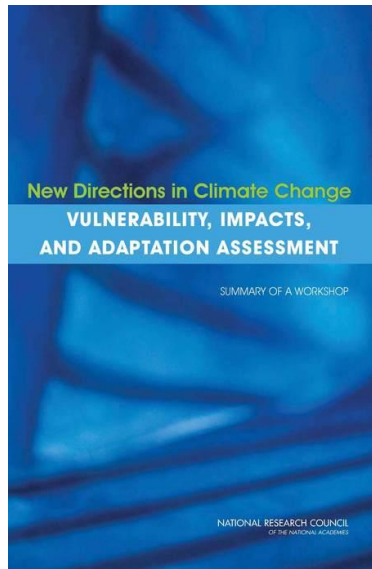
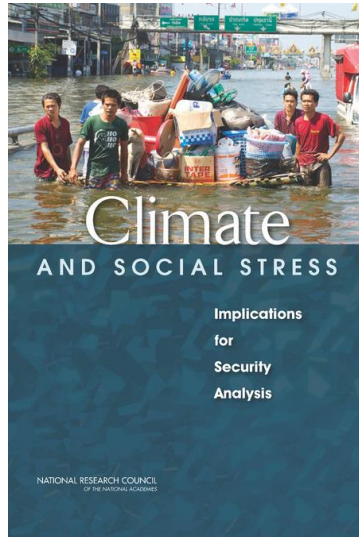
Role of the Social and Behavioral Sciences in Relation to Environmental Change

- Human responses
 - Decision support; understanding of risk
 - Systems view; insight on designing social institutions
- Research and data needs
 - Design of data systems at various social, spatial and temporal scales
 - Integrated observation and data systems
 - Public understanding of sustainability

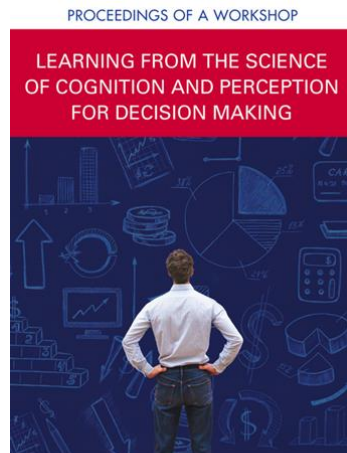
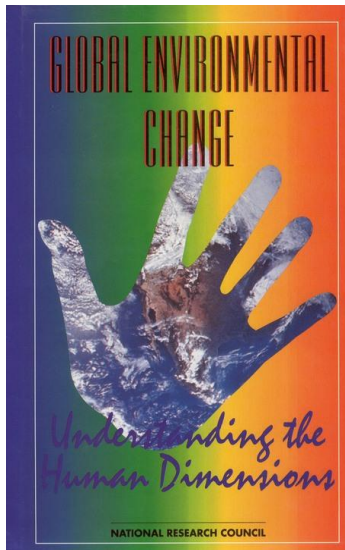
Human Causes: Population and Demography



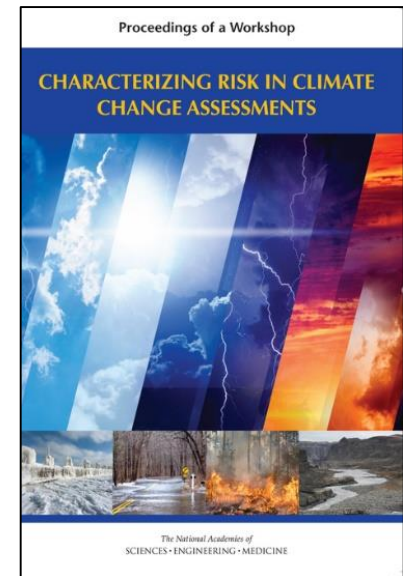
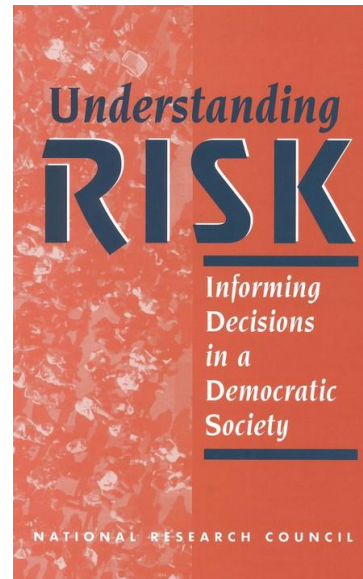
Human Consequences



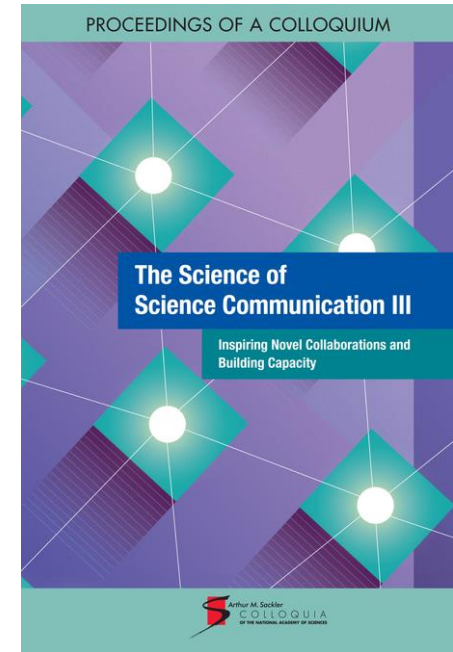
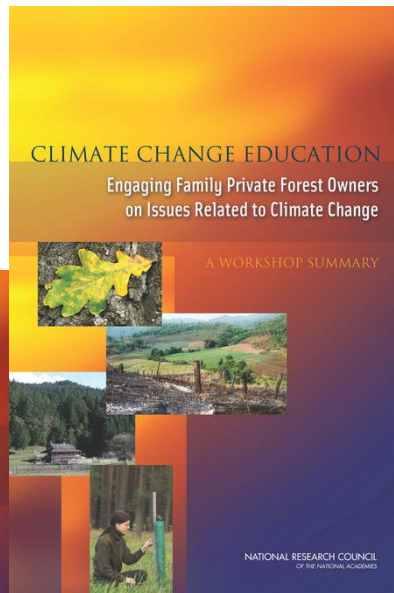
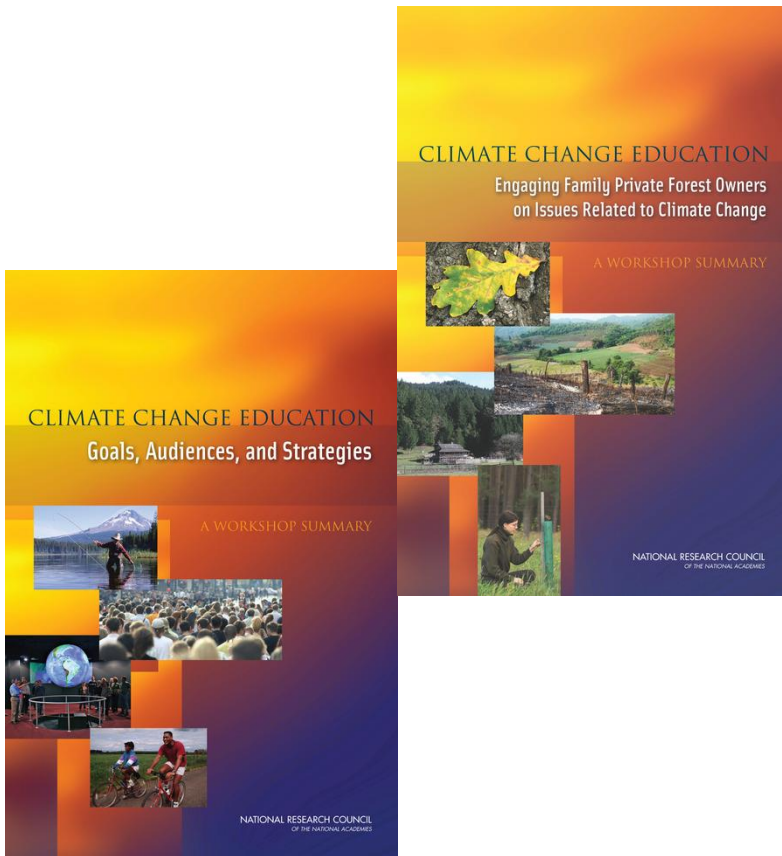
Human Understanding: Risk and Decision-Making



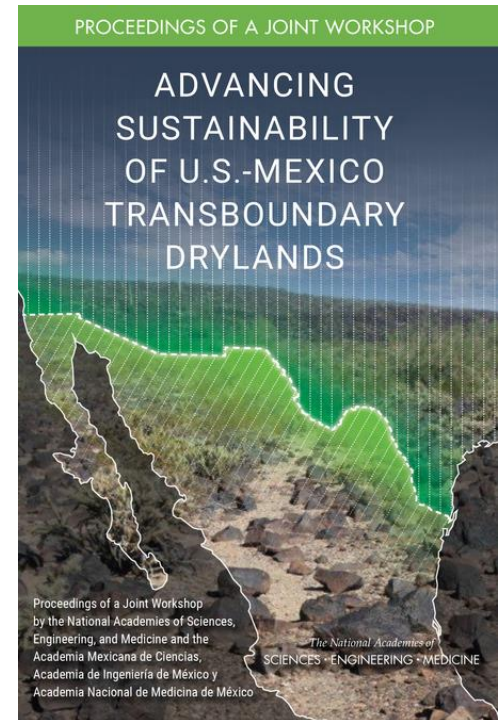
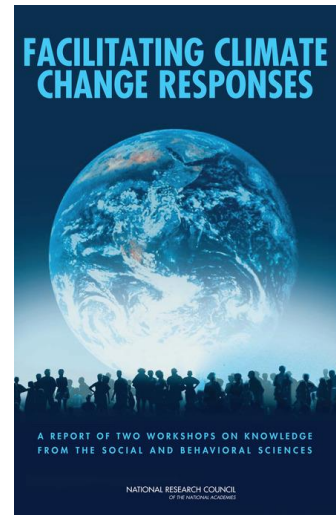
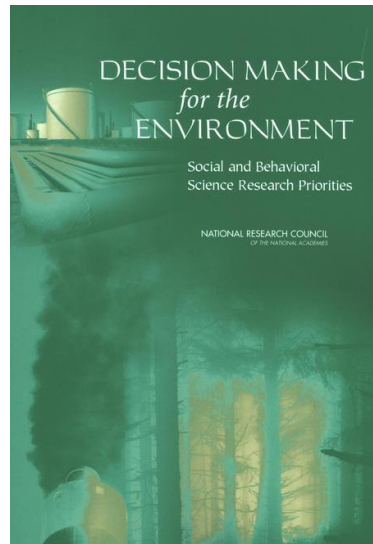
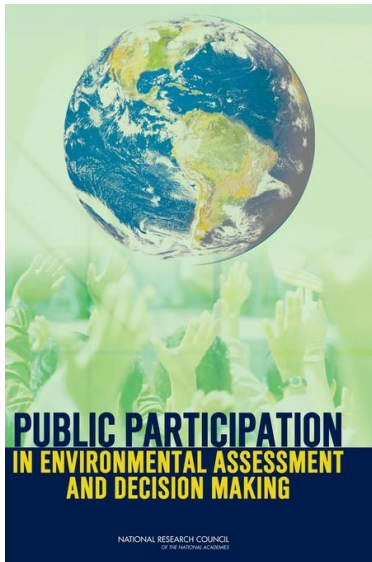
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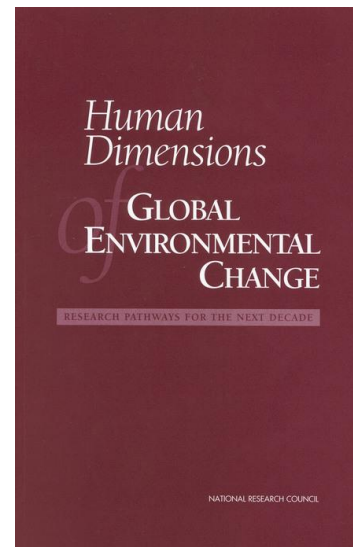
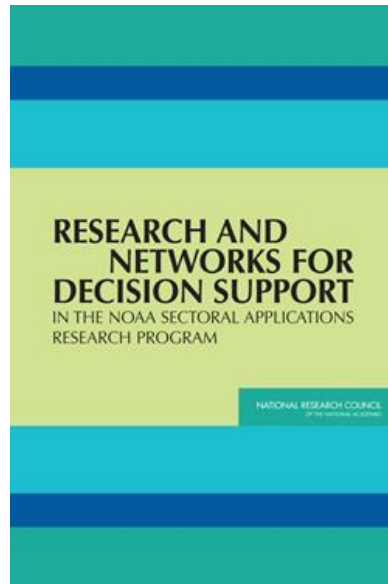
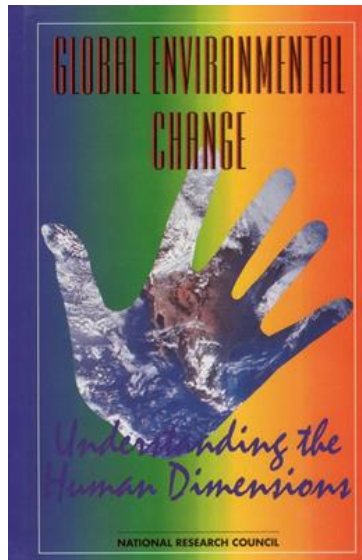
Human Understanding: Learning, Education, and Communication



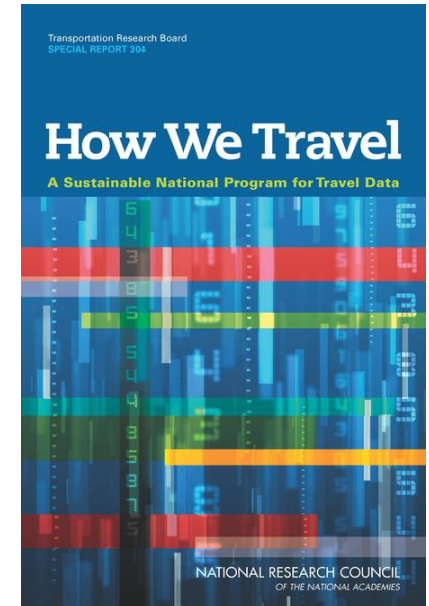
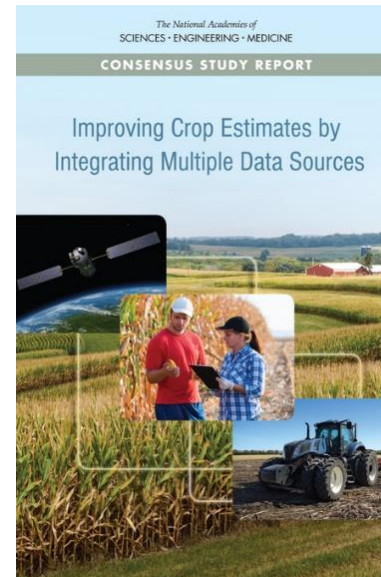
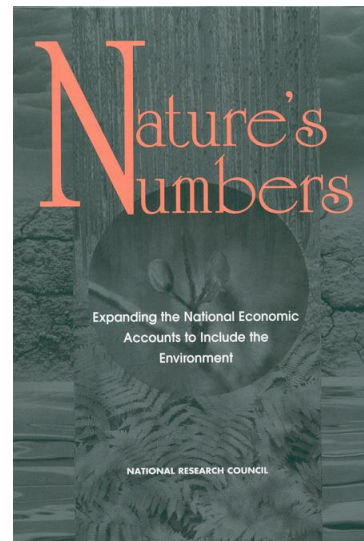
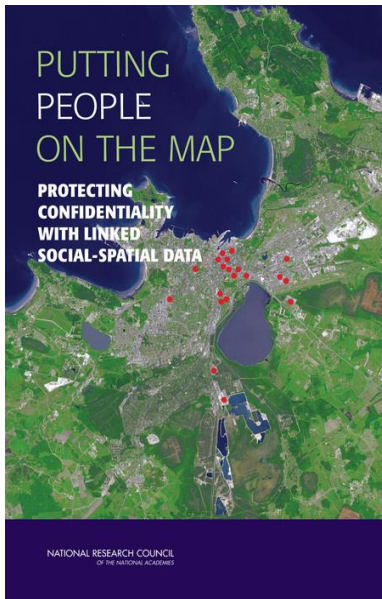
Human Responses: Partnerships



Research Agendas and Scientific Capacity



Data Needs and Opportunities



DBASSE Units in the Sustainability Space

- Board on Science Education - Heidi Schweingruber
 - Standing Committee on Advancing Science Communication Research and Practice
- Committee on National Statistics - Brian Harris-Kojetin
- Board on Environmental Change and Society - Toby Warden
 - Committee to Advise the US Global Change Research Program (with DELS/BASC)