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How? And Why? (May 26)

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SLIDES: Arctic Ecosystem Services Measurement and Modeling Project

Eric Biltonen

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Arctic Ecosystem Services Measurement and Modeling Project

Eric Biltonen, PhD

Environment Economist

Houston Advanced Research Center

Environmentally Friendly Drilling Program Quarterly Meeting:
Best Management Practices – What? How? and Why?

May 26, 2011

Project Objectives

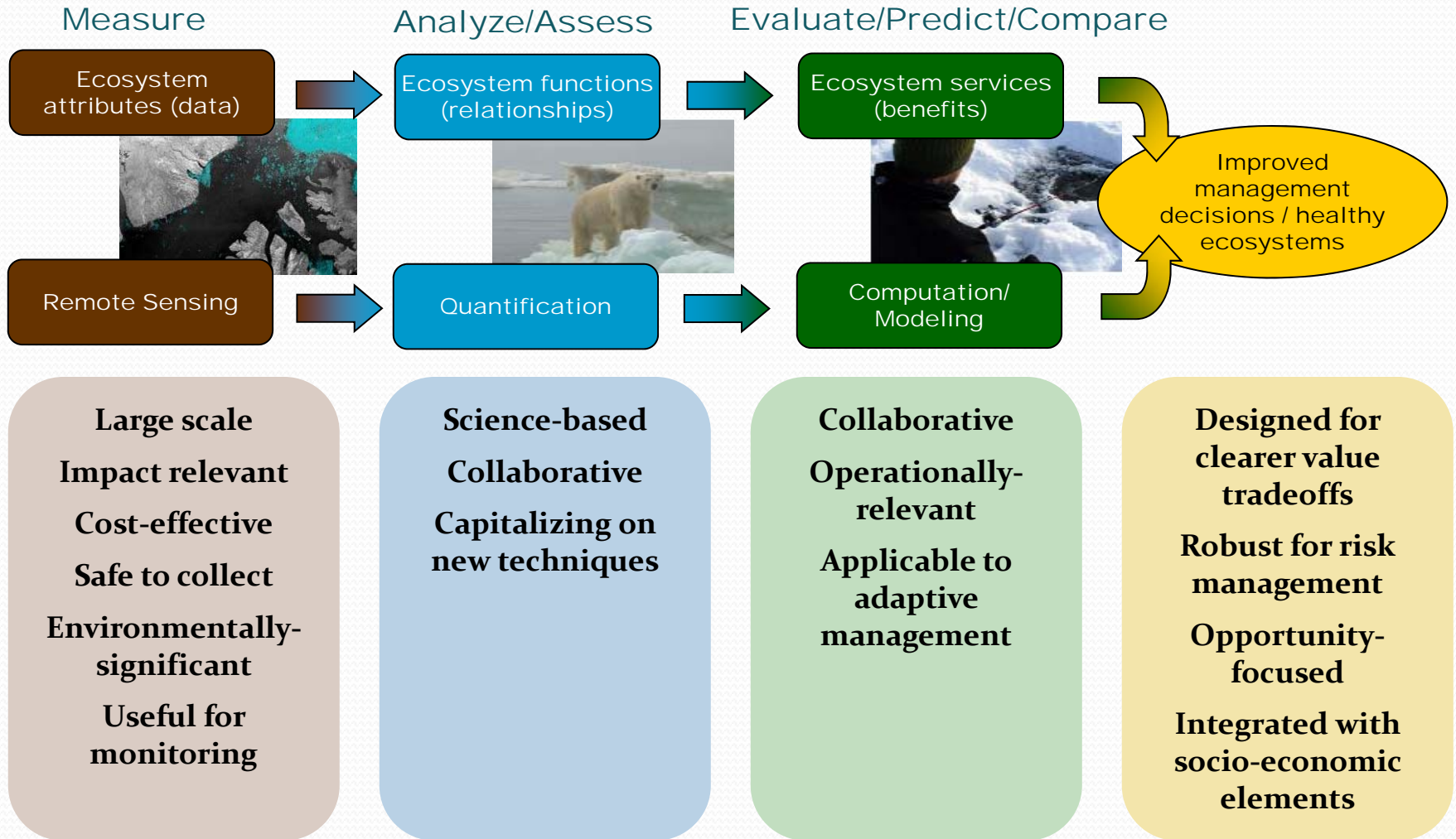
- To assess and promote ecosystem management tools and metrics that may be used in Arctic marine ecosystems
- To establish a network of researchers for collaboration.

Why?

Business-relevant ecosystem services assessment tools to:

- Understand our dependencies and impacts with respect to ecosystem services in our operating areas
- Model and evaluate effects of alternative scenarios on ecosystem services.
- Consider our potential impacts in context of other ecosystem stressors (e.g., climate change, other commercial activities)

Research Approach



Application to the Arctic

- The Arctic represents the intersection of
 - Sensitive environments
 - Strongly coupled socio-ecological systems
 - Rapid change (social, economic, environmental)
- Presents challenges for observing and characterizing the environment
 - High cost and risk of field work
 - Large natural variability and complex feedbacks
 - Vast areas with limited avenues of access
- Range of stakeholders, including communities, have a history of taking active role in environmental management and development issues

Research Approach: Valuation

- Valuation and Scenario Assessment
 - Objective: proof-of-concept for how non-monetary valuation data can be collected, assimilated, and represented in ecosystem service scenario assessments.
 - Requires participation from stakeholders
 - Use participatory modeling approach to develop relative values and priorities (non-monetary valuation) among stakeholder groups related to shoreline stability and primary productivity
 - Relative values elucidated through joint stakeholder scenario development and trade-off analysis
 - Outcomes:
 - Assess effectiveness of methodologies
 - Valuation (input) data for building on methods

Next steps

- Consulting with stakeholders
 - Native population
 - Scientists
 - Local government
 - Federal government
 - NGOs
- Incorporate stakeholder input into research approach and future activities
- Case studies to test approach, tools and models

Thank you!

Eric Biltonen, PhD

Environmental Economist

E-mail: ebiltonen@harc.edu