MODELS AND NARRATIVES IN TRANSITIONING TO A SUSTAINABLE FUTURE FOR ALL

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Context:

ICSU Visioning and Belmont Challenges for addressing global environmental change in the Anthropocene

Conceptual Framework:

Knowledge, Learning, and Societal Change research and action alliance - a new IHDP 10-year initiative

Projects and perspectives:

Analytical: learning by modeling nature and society

Affective: creating and studying the influence of narratives

International Council of Science (ICSU) Visioning

ICSU Grand Challenges:

1. Forecasting

2. Observing

3. Confining

4. Responding

5. Innovating

"How can improved scientific *knowledge* of the risks of global change and options for response most effectively catalyze and support appropriate *actions* by citizens and decision-makers"

Earth System Sustainability Initiative (ESSI)

International Human Dimensions Programme on GEC

▸ look at current global environmental problems as social and societal challenges

▸ frame, develop and integrate social science research on global change

current core "projects":

1. Urbanization and Global Environmental Change

2. Integrated History of People on Earth

3. Land-Ocean Interactions in the Coastal Zone

4. Global Land Project

5. Earth Systems Governance

6. Integrated Risk Governance

7. Knowledge, Learning, and Societal Change (KLSC)

Knowledge, Learning, and Societal Change: Finding Paths To A Sustainable Future

A new core project/alliance of the
International Human Dimensions Programme
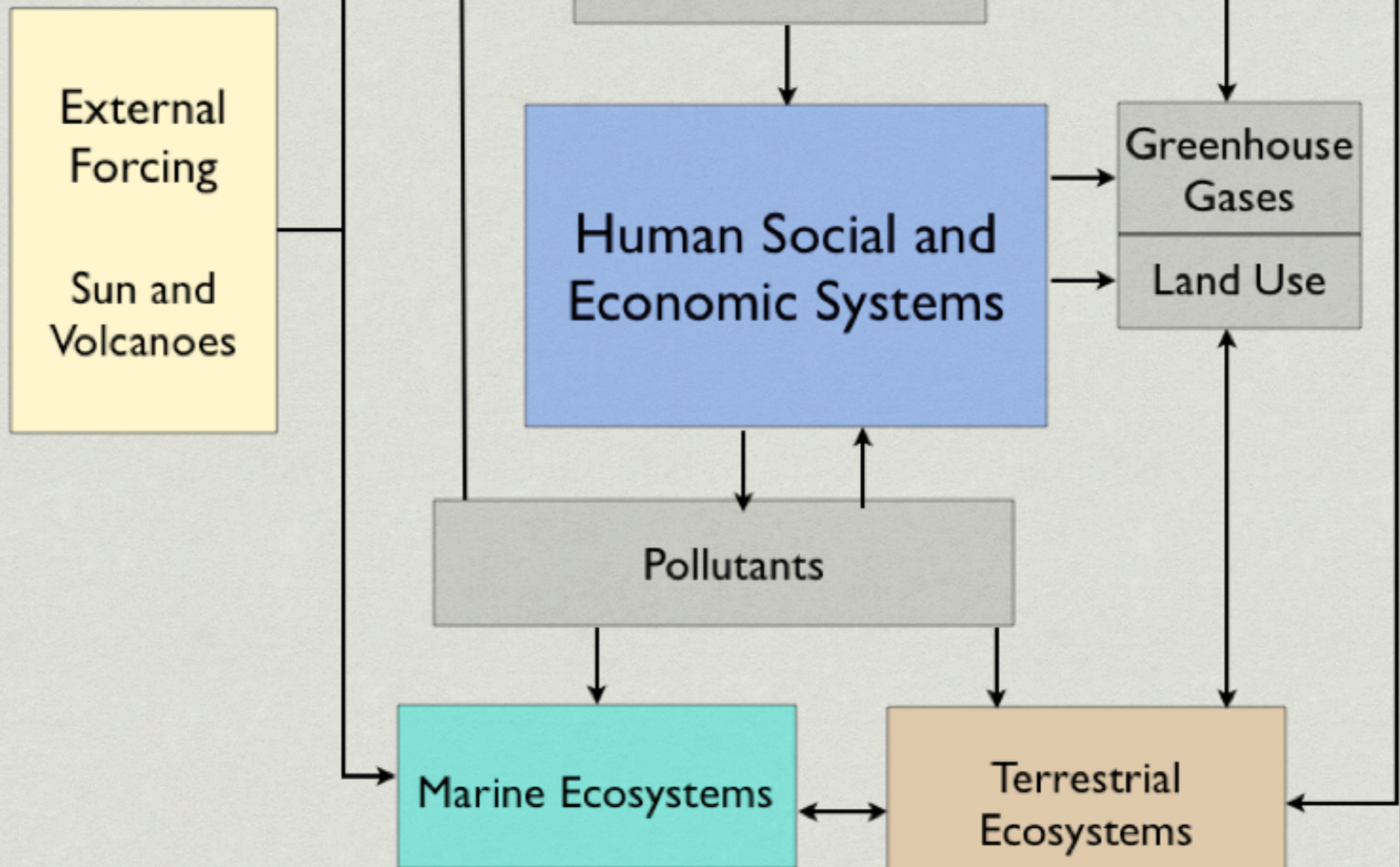in Global Environmental Change - IHDP

Mission of KLSC

is to contribute in effecting a transition to a sustainable future for all

by understanding and enabling the effective use of the mechanisms and levers of behavioral and societal change linked with knowledge and learning

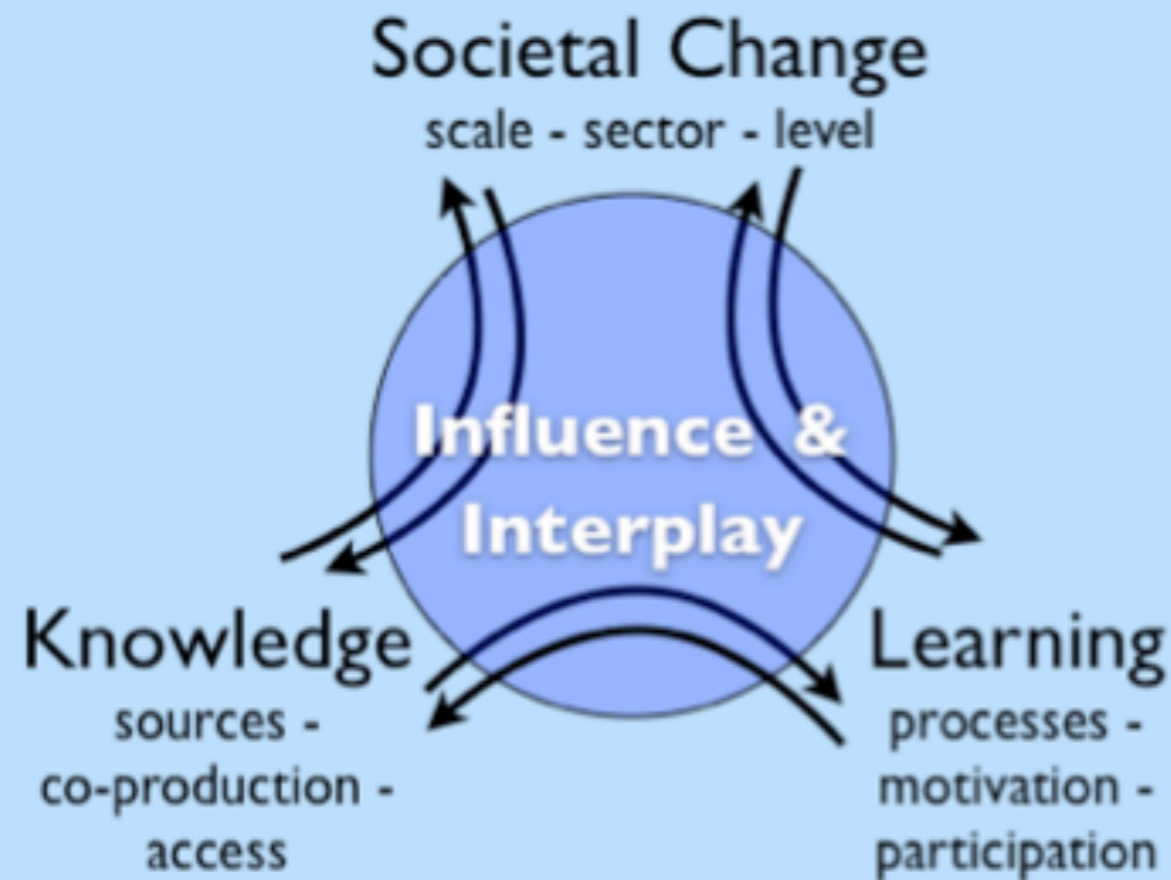through the combined efforts of a collaborative community of researchers, practitioners, and stakeholders

working across multiple temporal and spatial scales

How can we learn to live well and adaptively within the constraints of our planetary system?

Atmosphere

Climate Change

External Forcing

Sun and Volcanoes

Human Social and Economic Systems

Greenhouse Gases

Land Use

Pollutants

Marine Ecosystems

Terrestrial Ecosystems

building a community for KLSC

Bringing together researchers, practitioners, policy makers and shapers in an open, creative process including:

journalist, dancer/choreographer, atmospheric physicist, neuroscientist, hydraulic engineer, ecological economist, political scientist, anthropologist, sociologist, social psychologist, NGO leader, EU research manager

It is not udderly unreasonable to feel cowed in the face of complex issues!

Coping With Complexity Through (Computational) Modeling

- make **fundamental significance** of models clear
- develop a **coherent strategy** for education and integration into curricula
- use models in strengthening **problem-focused, transdisciplinary project-based learning**
- emphasize progressive development of **computational modeling** skills
- use **games and simulations** explicitly as model-based systems
- put into effect **at all levels of education** from elementary school through university
- introduce in **informal learning venues** for lifelong family and adult learning opportunities

Learning for sustainability through models

Project development

- assess current use of modeling in disciplines and in transdisciplinary project-based learning

- study the cognitive, affective, ethical/moral aspects of thinking with models

- develop strategy for expanding and improving use of issue-focused models at all levels in education

- plan and operate pilot studies in diverse settings

- synthesize results of pilots and find opportunities for replication and scaling up

Narratives: reflections & visions

Picasso's *Guernica* (1937)

Cassie Meador's *Drift* examines: What happens when land changes hands? What becomes of people and their jobs? Where does our food come from?

Narratives

Media are the means to create and express narratives

Narratives are fundamental forms of human expression

   affect - personal, emotional, opening for empathy

   effect - memorable and widely communicable

   reflect - learn from experience, encapsulate ideas

Narratives should be

   created for expressing visions of a sustainable future,

   studied in action research to understand when and how they lead to or deter social innovation and societal change

Public & Policy: Decisions & Actions

Public(s) understanding of models and modeling

- IASS: 1. governance for sustainability and 2. sustainable interactions with the atmosphere

- HA: system modeling of energy and the methods by which the nat'l and social sciences generate and test knowledge

- UWisc consortium: Landscapes, food, and security

Creating and using narratives for sustainability:

- IASS: governance across cultural and regional boundaries

- RIHN: sustainable communities in Asia and their stories

THE ~~END~~

THE PROCESS OF MOVING TOWARD A SUSTAINABLE FUTURE