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Introductory lecture

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The Role of Science in the Transition to Sustainability: Coastal Zone Examples

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Abstract

The intent of this speech is to explore why we are moving too slowly towards Sustainability. The answer to the question, of who is responsible for Sustainable Development, is no one and everyone. This may give us a clue as to why we won't get there in time. We are starting to study complex human systems and we know that they have the capacity to reorganize to lower entropic states and that this capacity depends on the health and diversity of its components. The unfortunate reality is instead that these systems are degrading to higher entropic states. We know some scenarios of change that could make the degradation worse, but we don't seem to have any complete scenarios that would reverse this degradation trend. This is where everyone comes in and everyone needs to cooperate. The chain of interacting components that constitutes the circle of responsibility necessary for a sustainable society may start or end with appropriate science and public awareness, but in between there is a lot of inertia against change in the societal components that needs to be overcome in order to make the cycle complete. A recent EU Integrated Project has arguably demonstrated a method by which science might help jump-start this reorganization process. It would require accelerating two coupled trends that are already in place, an expansion to complex systems science, and a more interactive role between science and society. To provide specific material for this discussion, I present how the 'systems approach' was applied to policy issues in eighteen European coastal sites and what was learned about how scientific research, coupled with local societies, can better address coastal issues and guide coastal management for the transition to Sustainable Development.