

GLOBAL INITIATIVE FOR INTEGRATIVE MODELING OF HUMAN AND EARTH SYSTEMS

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Building Capacity for 21st Century Social Sciences

- * Goals
 - * Mapping future directions for large-scale societal research
 - * Infrastructure to catalyze advanced science of human systems
 - * Identifying resources for building research capacity

Building Capacity for 21st Century Social Sciences

- * Recommendations (white paper)
- * National Center for Human Systems Science
 - * Next generation science on the dynamics of human systems and coupled human-natural systems
 - * High-performance computation for data synthesis, modeling, and advanced visualization
 - * Meta-portal to synthesize data streams from multiple off-site sources and sensors
- * https://www.academia.edu/27189352/A_National_Center_for_Human_Systems_Science_Advancing_Next_Generation_Social_Informatics_and_Analytics

Building Capacity for 21st Century Social Sciences

- * Examples of potential research
 - * Risks of abrupt transitions in social and associated ecological systems, and decision-making under risk and uncertainty
 - * Global human systems models that can be coupled with current earth systems models
 - * Massive agent based modeling of firms and workers in the US economy
 - * Analysis of social and security consequences of globally interconnected information networks

Followup Meetings

- * Social Observatories Coordinating Network
- * US Global Change Research Program
- * Second workshop at *Institute for Social Research*
- * Comments to Congressional **Commission on Evidence Based Policymaking**
- * *Clearinghouse for Integrative Human Analytics and Data Synthesis*
- * <https://www.regulations.gov/document?D=USBC-2016-0003-0186>
- * **Tracking #1k0-8t5u-nvqk**

Workshop: Linking Earth System Dynamics and Social System Modeling

- * CSDMS/CoMSES Net Social Dimensions FRG workshop
- * Goal: create a multi-year science plan for next generation integrative modeling
- * Major topics
 - * Initial domains to tackle
 - * Issues for coupling human and Earth systems models
 - * Modeling extreme events and migration
 - * Modeling human decisions and behavior
 - * Impact assessment
- * CHESS community

Workshop: Modeling Challenges for Sustainability

- * Future Earth/AIMES workshop on integrative modeling of human and Earth systems (Kyoto)
- * Emphasis on community building
- * Focus on
 - * Modeling significant transitions/regime shifts
 - * Multi-scalar modeling

Where do we go from
here?

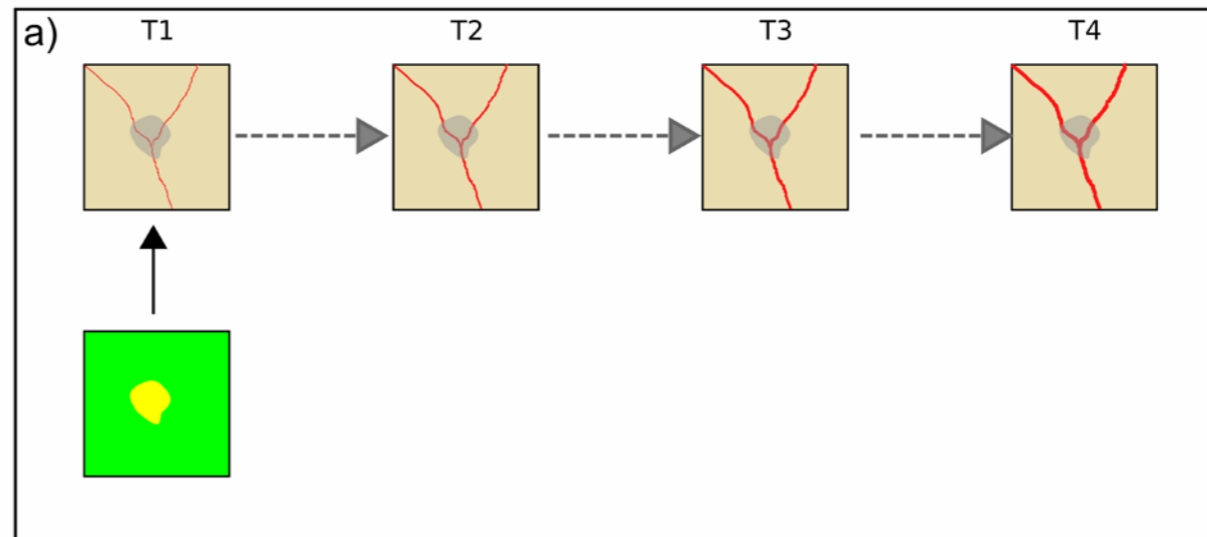
CSDMS Annual Meeting: Modeling Coupled Earth and Human Systems

- * Jointly sponsored by CoMSES Net
- * 23-25 May, 2017
- * CSDMS integration facility (Colorado and Foothills Parkway)
- * Information and registration at:
<http://csdms.colorado.edu>

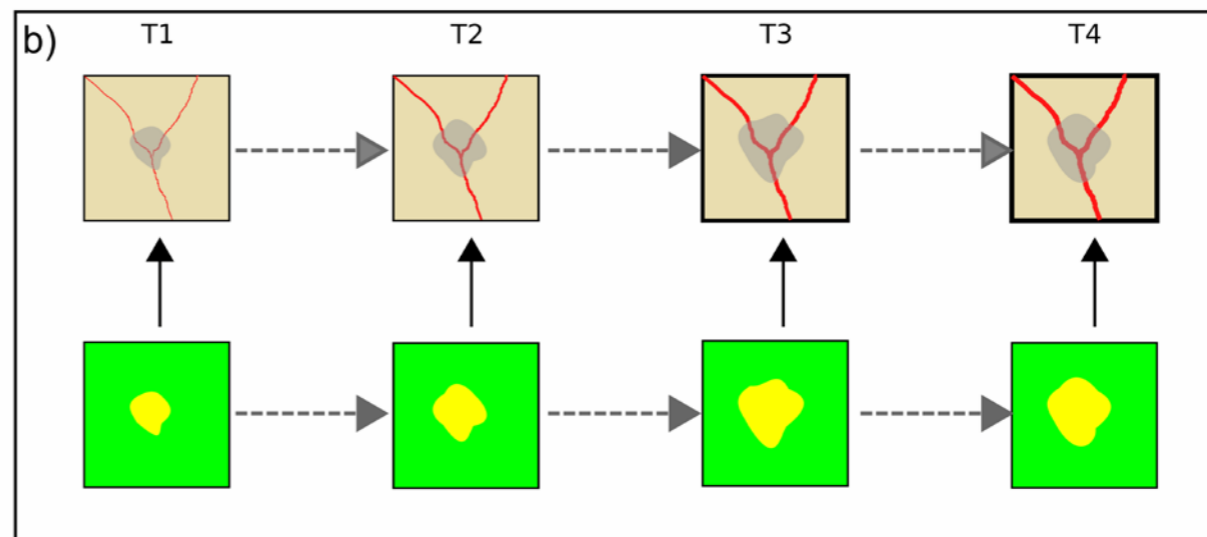
Workshop: Integrated Modeling of Socio-Environmental Systems

- * Sponsored by Future Earth/AIMES
- * 13-15 March, 2017
- * Institute for Advanced Sustainability Studies, Potsdam, Germany
- * Modeling regime shifts in SES and international FOSS initiative for integrative modeling

human system as static input



human system as dynamic input



bi-directional feedbacks between human & biophysical systems

