Interdisciplinary collaboration in human-Earth systems modeling

Tuesday 5 March 2024 14:15 (2 hours)

Human activities are critical determinants of many sustainability challenges faced by human-Earth systems, such as climate change mitigation or adaptation. Yet, human decision making is still underrepresented in Earth system science models. This break-out session will explore opportunities for interdisciplinary collaboration within Topic 5, aiming to harness its wide range of social and biophysical science perspectives to develop novel analysis approaches.

Presentations: Examples of interdisciplinary analyses

1. Interdisciplinary sustainability assessment of production systems (Walther Zeug, UFZ)

2. Better understanding regional feedbacks in coupled human-Earth systems for climate mitigation and adaptation: examples from regional climate-land system modelling and questions for the future (Diana Rechid, hereon)

3. Coupled hydro-economic multi-agent modelling approach for low water planning in Thuringia (Simon Werner, UFZ)

4. Catchment-scale digital twin systems (cDTS) for hazard assessment and mitigation. (Hui Tang, GFZ)

Discussion input: The need for interdisciplinary collaboration in human-Earth systems modeling (Christian Klassert, UFZ)

World café: Opportunities for interdisciplinary collaboration

- 1. Human behavior as an input to biophysical models
- 2. Modeling the impacts of biophysical model outputs on human systems
- 3. Two-way coupling of human and biophysical models
- 4. Human-Earth systems models for transdisciplinary research and science communication

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Session Classification: Breakout Sessions