IW2017 | WORKSHOP REPORT

C5: Comparing methods for assessing climate impacts

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Summary of themes covered in workshop

Overarching theme: Comparison of climate impact estimates from two different model approaches: statistical-econometric models (2 presentations) and process-based models (3 presentations)

Specific theme: Development of improved economic damage functions (aka Social Cost of Carbon) that include causal relationships (e.g. regionally specific heat-related mortality) and adaptation

Specific theme: Development of reduced-form impact response surfaces based on process-based impact models for various climate-sensitive sectors

Specific theme: Improve consideration and assessment of adaptation options in the water sector (including water demand) under different climate change scenarios (focus region: Africa)

Most controversial question that came up in this workshop?

● (Under which conditions) is it justified that researchers apply monetary values to human lives? How to choose these values? Are the same values chosen independent of the region and impact level?

● How to deal with the requests/pressures of many policy-makers to provide a single number (e.g. on benefit-cost ratio of specific adaptation measures)?

Results of the discussion

Researchers acknowledged a number of limitations of both modelling approaches.
The focus should be on mutual learning, and on understanding the strengths and limitations of individual modelling approaches, rather than choosing a single "best" modelling approach?
Most of the discussion related to (clarifications, strengths and limitations of) individual modelling approaches.

Research gaps identified

- How to consider the range of potential changes in non-climatic decisions?

- How to consider extreme and catastrophic events in process-based models?

- How best to project most of the information in spatially explicit climate impact projections in low-dimensional domain of drivers for impact response surfaces?

- How to consider cross-secoral relationships in statistical models?

Next steps

Improve the conditions for interdisciplinary climate change research (already for graduate students)

Other

NA

3-5 keywords that characterize the session

Process models, statistical models, integrated modelling, climate damage functions, inter-sectoral relationships