KlimaCampus Hamburg

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KlimaCampus Colloquium

Sonia Seneviratne

Determining allowable CO2 emissions from regional- and impact-related climate targets: The role of land processes

Global temperature targets, such as the widely accepted "2° target", may fail to communicate the urgency of reducing CO2 emissions because they are disconnected from their implications. The translation of CO2 emissions into regional- and impact-related climate targets is more powerful because such targets are more directly aligned with individual national interests. This presentation will highlight results from a recent publication (Seneviratne et al. 2016, Nature) illustrating this approach for regional changes in extreme temperatures and precipitation. These scale robustly with global temperature across scenarios, and thus with cumulative CO2 emissions. This result is particularly relevant for changes in regional extreme temperatures on land, which are much greater than changes in the associated global mean. Process-based based analyses explain this divergence and highlight avenues for reducing uncertainties in regional projections of extremes, in particular related to the role of land-atmosphere feedbacks for projections.

Sonia Seneviratne from the ETH Zürich is invited by Jochem Marotzke from the Max Planck Institute for Meteorology

Bundesstraße 53, Room 22/23 (ground floor)