

Programme of the Summer Course
at Research Methodology Workshop of the Master ACT

Climate change: causes and consequences

Objective and learning outcomes	Content
<p>The students should understand the causes and magnitude of anthropogenic climate change, including the role of agriculture.</p> <p>The historical anthropogenic greenhouse gas emissions will be discussed. The contribution of agriculture to the emissions and the mitigation options should be understood.</p> <p>The students will be introduced in the concept of climate change modelling and learn about the skills and limitations of climate change scenarios.</p> <p>Climate change projections and impacts will be discussed in detail on global and regional scale with emphases on agricultural topics.</p> <p>Techniques to make climate change projections usable for agronomic impact models will be explained and option for adaptation measures in different agricultural systems and regions discussed.</p>	<p>Greenhouse effect (natural vs. anthropogenic) GHG emission</p> <p>Agricultural contribution to emission</p> <p>Mitigation option (conventional vs. organic, lifestyles (meat consumption,...))</p> <p>The concept of climate modelling</p> <p>The climate system (as seen by climate models) Emission scenarios</p> <p>Global and regional climate models Uncertainties</p> <p>Bias correction and localisation</p> <p>Interfacing climate- and climate impact models</p> <p>Global scenarios and Impacts Regional scenarios and Impacts (tropic, sup tropic, extra-tropic)</p> <p>Climate change and extreme events Feedbacks and tipping points and the role of biosphere</p> <p>Options for adaptation</p>