

Co-development of methods to utilize uncertain multi-model based information on freshwater-related hazards of climate change in the Ebro Basin

Workshop Programme

January 24th and 25th, 2019

Location: Confederación Hidrográfica del Ebro, Zaragoza, Spain

Aim of the workshop:

To gain understanding of the possibilities of multi-model based information and of the needs and perceptions of stakeholders in adaptation planning. To co-construct Bayesian network structures as a basis to explore adaptation planning on the country scale.

Host: Laboratoire de météorologie dynamique (LMD) Francia, International Center for Water Resources and Global Change (ICWRGC) Alemania

Moderation: Dr. Carina Zang

Contact: Dr. Carina Zang (zang@bafg.de)

Conference Language: English, Spanish

Thursday, January 24th: Quantifying climate change impacts on water based on multi-model ensemble output

10h00-10h15	Opening of the workshop: Dr. Jan POLCHER , Laboratoire de météorologie dynamique (LMD), Prof. Petra DÖLL , Goethe University Frankfurt
10h15-10h40	Introduction to CO-MICC project and workshop goals: Prof. Petra DÖLL
10h40-11h00	Introduction of workshop participants: Dr. Carina ZANG
11h00-11h20	Presentation of expert interview results: Dr. Carina ZANG , Fabian KNEIER <ul style="list-style-type: none">- Challenges related to climate change impacts on the water sector- Integration of climate change in own work- Data needs- Perception graphs of experts <p><i>Aim: To understand perspectives, challenges and data needs of experts as well as informing participants on sub-scale needs</i></p>
11h20-11h50	Current state of scientific research of climate change impacts on water: multi-model ensembles of global climate and hydrological models: Prof. Petra DÖLL <p><i>Aim: To better understand the current state of scientific knowledge of climate change impacts on water including uncertainty</i></p>
11h50-12h10	Tea break

12h10-13h30	<p>Reliability of global hydrological model output:</p> <ol style="list-style-type: none"> 1. Plenary discussion on (experts') doubts regarding global hydrological model (GHM) output: collecting ideas on cards. Dr. Jan POLCHER Q : Under what circumstances would you use the outputs of global hydrological models for supporting climate change adaptation ? Q : What hinders you to use the outputs of global hydrological models ? Q : Multi-model ensembles (MMEs) provide not only one value of change but also related uncertainty information. Under what circumstances would you use the uncertainty information for supporting climate change risk management? 2. Addressing doubts of global hydrological model from the modelers' perspective showing fit to current conditions: Fabian KNEIER <p><i>Aim: To learn about potential applicability and constraints for using GHM output and uncertainty information based on multi-model ensembles.</i></p>
13h30-15h00	Lunch
15h00-15h45	<p>Relevant variables and diagnostics (indicators) for freshwater-related adaptation strategies: Fabian KNEIER</p> <p><i>Aim: To learn which diagnostics are important and most relevant for stakeholders when developing adaptation plans</i></p>
15h45-16h45	<p>Options for presenting/communicating potential climate change impacts as quantified by multi-model ensembles: part I - Expert evaluation (groups of 2 people): Fabian KNEIER</p> <p><i>Aim: To get feedback on potential ways for presenting information contained in multi-model ensembles</i></p>
16h45-17h00	Tea break
17h00-17h30	<p>Options for presenting/communicating potential climate change impacts as quantified by multi-model ensembles: part II – Summary of expert evaluation: Dr. Jan POLCHER</p> <p><i>Aim: To summarize feedback on potential ways for presenting information contained in multi-model ensembles</i></p>
17h30-19h00	<p>Existing web portals as example "mock-up" and suggested improvements: Dr. Carina ZANG</p> <ol style="list-style-type: none"> 1) Web portal 2) Uncertainties 3) User stories <p><i>Aim: To understand the needs of users concerning the provision of relevant data on the web portal</i></p>
20h30	Dinner

Tuesday, November 13th: How to use multi-model ensemble information for regional climate change risk assessment in the water sector: Bayesian networks and other options

9h30 – 11h00	<p>Identifying freshwater-related key risks of climate change that need to be managed: Prof. Petra DÖLL</p> <ol style="list-style-type: none"> 1. Introduction (20 Min) 2. Break-out groups by country (40 Min) 3. Presentation of results and discussion in plenary (30 Min) <p><i>Aim: To identify major water-related problem (risk) caused by climate change, by identifying relevant variables and defining risk metrics/critical state, and to explore potential use of multi-model ensemble data</i></p>
11h00- 11h15	Tea break
11h15- 12h00	<p>Presentation of Bayesian network modelling using an exemplary model structure based on expert interviews and literature: Fabian KNEIER</p> <p><i>Aim: To learn how to develop a causal network describing a climate change risk.</i></p>
12h00- 12h35	<p>Plenary discussion: Other ways of integrating GHM ensemble output in climate change risk assessments in the Ebro basin: Dr. Jan Polcher</p> <p><i>Aim: To learn from experts how multi-model GHM output could be best used for supporting climate change risk assessment in the Ebro basin</i></p>
12h35- 13h15	<p>Questionnaire for evaluating the process of co-production and impact: Dr. Carina ZANG</p> <p><i>Aim: To understand the effectiveness of the workshop and obtain recommendations for improvements</i></p>
13h15- 13h30	<p>Wrap-up and feedback from participants: Prof. Petra DÖLL, Dr. Jan POLCHER</p> <p><i>Aim: To reach a common understanding of workshop achievements</i></p>
13h30- 13h45	<p>Outlook and closing words: Dr. Jan POLCHER, Prof. Petra DÖLL</p>