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

Workshop Programme

Janaury 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
10h15-1040	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 - Challenges related to climate change impacts on the water sector - Integration of climate change in own work - Data needs - Perception graphs of experts *Aim: To understand perspectives, challenges and data needs of experts as well as informing participants on sub-scale needs*
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 *Aim: To better understand the current state of scientific knowledge of climate change impacts on water including uncertainty*
11h50-12h10	Tea break

12h10- 13h30	Reliability of global hydrological model output: 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 *Aim: To learn about potential applicability and constraints for using GHM output and uncertainty information based on multi-model ensembles.*
13h30- 15h00	Lunch
15h00- 15h45	Relevant variables and diagnostics (indicators) for freshwater-related adaptation strategies: Fabian KNEIER *Aim: To learn which diagnostics are important and most relevant for stakeholders when developing adaptation plans*
15h45- 16h45	Options for presenting/communicating potential climate change impacts as quantified by multi-model ensembles: part I - Expert evaluation (groups of 2 people): Fabian KNEIER *Aim: To get feedback on potential ways for presenting information contained in multi-model ensembles*
16h45- 17h00	Tea break
17h00- 17h30	Options for presenting/communicating potential climate change impacts as quantified by multi-model ensembles: part II – Summary of expert evaluation: Dr. Jan POLCHER *Aim: To summarize feedback on potential ways for presenting information contained in multi-model ensembles*
17h30- 19h00	Existing web portals as example "mock-up" and suggested improvements: Dr. Carina ZANG 1) Web portal 2) Uncertainties 3) User stories *Aim: To understand the needs of users concerning the provision of relevant data on the web portal*
21h00	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

9h00 – 10h30	Identifying freshwater-related key risks of climate change that need to be managed: Prof. Petra DÖLL 1. Introduction (20 Min) 2. Break-out groups by country (40 Min) 3. Presentation of results and discussion in plenary (30 Min) *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*
10h30-10h45	Tea break
10h45-11h30	Presentation of Bayesian network modelling using an exemplary model structure based on expert interviews and literature: Fabian KNEIER *Aim: To learn how to develop a causal network describing a climate change risk.*
11h30-12h05	Plenary discussion: Other ways of integrating GHM ensemble output in climate change risk assessments in the Ebro basin: Dr. Jan Polcher *Aim: To learn from experts how multi-model GHM output could be best used for supporting climate change risk assessment in the Ebro basin*
12h05-12h45	Questionnaire for evaluating the process of co-production and impact: Dr. Carina ZANG *Aim: To understand the effectiveness of the workshop and obtain recommendations for improvements*
12h45-13h00	Wrap-up and feedback from participants: Prof. Petra DÖLL, Dr. Jan POLCHER *Aim: To reach a common understanding of workshop achievements*
13h00-13h15	Outlook and closing words: Dr. Jan POLCHER, Prof. Petra DÖLL