

**Parallel Session D:**  
**Domain/cross-domain meetings,**  
**Convection permitting models**

**D7: Climate Services developments**  
**in the frame of CORDEX**  
**and their transferability**

**POSTER PRESENTATIONS**

**Parallel Session D: Domain/cross-domain meetings,  
Convection permitting models  
D7: Climate Services developments in the frame of CORDEX  
and their transferability**

**D7-P-01**

**The need for flexible selection of climate simulation sub-ensembles for  
impact assessment in a climate service**

***Ole B. Christensen**, Danish Meteorological Institute, Denmark*

***Ole B. Christensen**, Danish Meteorological Institute, Denmark; **Marianne S. Madsen**, Danish Meteorological Institute, Denmark; **Rasmus Benestad**, Met. Norway, Norway; **Andreas Dobler**, Met. Norway, Norway; **Kajsa M. Parding**, Met. Norway, Norway; **Olle Räty**, University of Helsinki, Finland; **Jouni Räisänen**, University of Helsinki, Finland; **Kimmo Ruosteenoja**, Finnish Meteorological Institute, Finland; **Peter Ukkonen**, Finnish Meteorological Institute, Finland; **Harilaos Loukos**, The climate Data Factory, France; **Elisabeth Viktor**, Climate Service Centre Germany, Germany; **Juliane Otto**, Climate Service Centre Germany, Germany; **Gabriella Zsebeházi**, Hungarian Meteorological Institute, Hungary; **Peter Szabó**, Hungarian Meteorological Institute, Hungary; **Antti Mäkelä**, Finnish Meteorological Institute, Finland; **Hilppa Gregow**, Finnish Meteorological Institute, Finland*

DECM (C3S\_51\_Lot4, Data Evaluation for Climate Models) was a COPERNICUS project in the Evaluation and Quality Control block dealing with climate model results and how to evaluate simulations for the COPERNICUS Climate Data Store (CDS), which is currently being developed at the ECMWF.

DECM had a strong focus on the relation between user requirements, data inventory and scientific quality assurance in order to recommend user-friendly and fit-for-purpose tools and services for the Evaluation and Quality Control framework of the COPERNICUS Climate Data Store, which will contain both regional (CORDEX) and global (CMIP) data..

This poster will present general findings and recommendations from the work on scientific model assessment and gap analysis of the relation between user needs and data availability. We present the main conclusions identified in this project related to the very important challenge of how to perform selection of sub-ensembles of climate model simulations. For advanced use, e.g. as input to quantitative impacts models, it is frequently necessary to select smaller sub-ensembles of larger existing ensembles. This is increasingly important as CMIP and CORDEX model simulation collections constantly grow.

**Keywords:** sub-ensemble selection, climate model uncertainty

**Parallel Session D: Domain/cross-domain meetings,  
Convection permitting models  
D7: Climate Services developments in the frame of CORDEX  
and their transferability**

**D7-P-02**

**Smallholder farmers' perceptions and adaptations to climate change and  
variability in Katakwi district, Uganda**

**Anthony Esabu, Farm Africa Uganda, NGO, Uganda**

The effects of climate change have highly challenged the productivity of the agricultural sector. The increasing temperatures and erratic rains, as well as diseases and pests have significantly reduced crop yields in the arid and semi-arid regions of Uganda. Though climate change has been the talk of the day, many farmers in the grassroots have hardly adopted any response options and have continued to suffer losses from the inherent effects of climate change. The present study sought to assess the perceptions of small scale farmers on climate change in selected sub counties in Katakwi district and identify adaptation measures adopted by the farmers in response to climate change. Descriptive survey design was used. A total of 177 households were randomly selected to constitute the study sample. Data was coded and analyzed using SPSS version 20. The results showed that most farmers had perceived a changing climate with 74% and 100% of the respondents in Kapujan and Toroma sub counties respectively, reporting an increase in temperature over the years. Regarding precipitation, 100% and 97% of the respondents in Kapiujan and Toroma sub counties respectively, had noticed a decrease in the average annual rainfall over the last two decades. Further, the results indicated that 76% and 88% of the respondents in Toroma and Kapujan subcounties respectively had adopted various adaptation options in response to the decreasing rainfall and the unpredictable onset of rains. The study established that farmers in drier areas perceived climate change more and had adapted more to climate change and variability as compared to those in wetter areas. More resources in terms of credit facilities, access to climate change information and extension services should be availed to farmers in areas affected more by climate change and variability to increase their resilience.

**Keywords:** Arid and semi-arid lands; Crop yields; Climate change; Drought resistant crops; Perceptions  
,Arid and semi-arid lands; Crop yields; Climate change; Drought resistant crops; Perceptions

**Parallel Session D: Domain/cross-domain meetings,  
Convection permitting models  
D7: Climate Services developments in the frame of CORDEX  
and their transferability**

**D7-P-03**

**Climate change estimations of fluvial discharge from the main Andean rivers**

**Lluís Fita**, *Centro de Investigaciones del Mar y la Atmósfera (CIMA/UBA-CONICET) & IFAECI (UMI 3351-IFAECI/CNRS-IRD-CONICET-UBA), Buenos Aires, Argentina*

**Lluís Fita**, *Centro de Investigaciones del Mar y la Atmósfera (CIMA/UBA-CONICET) & IFAECI (UMI 3351-IFAECI/CNRS-IRD-CONICET-UBA), Buenos Aires, Argentina*; **Andrea F. Carril**, *Centro de Investigaciones del Mar y la Atmósfera (CIMA/UBA-CONICET) & IFAECI (UMI 3351-IFAECI/CNRS-IRD-CONICET-UBA), Buenos Aires, Argentina*; **Ricardo Villalba**, *Instituto Argentino de Nivología, Glaciología y Ciencias Ambientales (IANIGLA), CCT-CONICET-Mendoza, CNRS UMI-3351 IFAECI, Mendoza, Argentina*; **Jan Polcher**, *Laboratoire de Météorologie Dynamique (LMD), IPSL, France*

Freshwater resources are essential for sustaining ecosystems and human activities. The Andean mountain range is an elongated series of mountains stretching from north to south all along the South American continent. In this study we present estimation of the projected changes in discharge from all major river basins in South America. These estimations are developed in a simple way by performing 'off-line' simulations with the routing scheme of the ORCHIDEE land model forced by CORDEX dynamical regional downscaled datasets. Our results are the first attempt to provide a depiction of the evolution of the water resources for the entire region making use of a simple, limited but reliable methodology.

**Keywords:** Fresh water, Climate projection

**Parallel Session D: Domain/cross-domain meetings,  
Convection permitting models**  
**D7: Climate Services developments in the frame of CORDEX  
and their transferability**

**D7-P-04**

**The East Africa - Peru - India Climate Capacities (EPICC) project is  
co-developing climate services for and with partners from the water,  
agriculture and related sectors.**

***Stephanie Gleixner**, Potsdam Institute for Climate Impact Research, Germany*

***Stephanie Gleixner, Holger Hoff, Kira Vinke,**  
Potsdam Institute for Climate Impact Research*

Funded by the International Climate Initiative (IKI) the project starts from a clear statement of demand by a national agency (ministry) in the respective partner country. Through this initial link, EPICC has established dialogues with a network of partners from policy making, the private sector, civil society and science in Tanzania, Peru and India, with national meteorological services playing a central role. Jointly with these partners, EPICC identifies local user-demands for climate services and capacities. In doing so, we recognize the different contexts, vulnerabilities, adaptation options and demands for capacity development across the three partner countries, at national and sub-national level.

Based on scientific products such as seasonal forecasts, climate scenarios and hydrological and agricultural impact assessments, EPICC assesses integrated adaptation options that strengthen climate resilience, help to achieve national development goals and potentially reduce migration pressure. Methods employed include statistical and process-based modeling, field surveys, data synthesis, advanced visualization techniques, web platforms, local workshops and training sessions and other formats.

Challenges that EPICC is facing include the need for continuous interaction, for establishing methods and structures that last beyond the project period, and to bridge the often large gap between science and policy- and decision-making. For that we closely cooperate with related projects, with other climate services initiatives, with various national and sub-national institutions and also with development cooperation. In an iterative process the concept of climate services is explained to partners and operationalized, that way overcoming concerns that EPICC (like other projects in the past) might want to exploit the national partners and their data without tangible benefit for them and their countries. This joint definition of relevant issues, research questions, products and eventually building of trust takes time.

**Keywords:** Climate Services, Co-development