WCRP CORDEX
Coordinated Regional Climate Downscaling Experiment

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# Session report: B
# Theme: CORDEX Interaction with Society

**Day and time:** Wednesday, 27.09.2023; 13.30-15.30 CEST
**Chairs:** Dominique PAQUIN and Amira Nasser MOSTAFA
**Rapporteurs:** MISNAWATI, José Manuel GUTIERREZ, Amadou COULIBALY

**Session B is devoted to identifying and summarizing how the CORDEX community has tackled different strategies to bridge the gap between climate science and society.**

## Top Highlights

1. Context is king and co-creation is key:

When working with partners (stakeholders, decisionmakers) the question posed is very important. “Don’t ask me what I need; ask me what I do” – try to better understand their context to provide more relevant and useful climate information. It requires capacity building: training, education, and interaction, like the WCRP Academy Lighthouse Activity is doing in the Global South where there are more barriers to access.

2. Regarding RIfS:

RIfS is aiming to facilitate a two-way interaction between scientists and society - more with society than for society. It requires bridging the last mile, driven by social science. Discussions of the role of CORDEX would be important to make the best use of resources.

3. Different downscaling techniques:

There is no systematic method for how to address conflicting results from different methods (GCMs, RCMs, ESD) but combining dynamical and statistical downscaling can allow us to cover a broader range of potential outcomes than using one or the other separately.

## Additional Notes and Takeaways

**Speaker 1 (William GUTOWSKI)**

- *Combining principles from emerging climate “storyline” research with collaborative storytelling to foster the relationship, equity, creativity, and recognition of values with stakeholders that create a cognitive ecosystem among all partners to produce meaningful climate information.*
- *Make simply understandable scientific knowledge and understandable to for the local community*

**Speaker 2 (Bruce HEWITSON)**

- *Regional information for society (RIfS) is not climate services of produced by WCRP, RIfS is about researching how to link climate research and stakeholder communities that integrated WRCP activities and initiatives to enhance the construction, communication, and adoption of climate information for society.*
- *Challenges on the regional/decision scale:*
- *How to identify, understand, and model the climate processes and their interaction to manage the society risk at the decision scales.*
- *How to integrate multiple evidence from observations and climate modeling to meet society's climate information needs.*
- *How to manage the best engagement between stakeholders and science community in different regional contexts to maximize the information benefit for the stakeholder and then integrate it into the design and execute relevant climate research.*
- *Sometimes, there is a mismatch between the adaptation context and the information on the scales in space and time.*

**Speaker 3 (Rasmus BENESTAD)**

- *Weather prediction and climate projection require different strategies.*
- *Multiple variable predictors are suitable for weather not for climate.*
- *Both dynamical and statistical downscaling have different sets of assumptions and are independent from each other: they have different strengths and weaknesses and use different tools.*
- *Combining the dynamical downscaling with empirical statistical downscaling gives better results than using only one method.*
- *We need to overcome the law of small numbers and models minimum skilful scale to adapt to the climate information for the real-world decision.*
- *To understand user needs and capacities (what is the information used for?; how does the information affect them?; why the information is used?), capacity building is needed (training, education, and interaction).*

**Speaker 4 (Christopher James LENNARD)**

- *The capacity of climate science: the world needs climate experts to improve capacity building of communities in the most vulnerable countries to mitigate and adapt to the negative impact of climate change.*
- *Large numbers of climate science training programs are available but a lot of them are not accessible.*
- *Provision of climate science training could be made more efficient and sustainable by better connecting the community who provides the climate science training with the community who requires climate training.*
- *Barriers to climate science training:*
- *There is no one single institution that can provide the complete training that modern climate scientists require.*
- *Climate science training can be made more useful if designed with the impact of climate variability and change taken into account.*
- *Barriers to access to training are primarily geographical and financial.*

- *Delivery of climate science training needs financial support from governments at all levels.*

**Speaker 5 (Linda MEARNS)**

- *Funding vehicles have different structures, are a work in progress, and are not easy to analyze.*
- *North America programs are supported by multiple agencies and have different funding sources.*
- *European programs on Regional Climate Modeling involve both major EU funding and national funding.*
- *North America and Europe have difference domain scopes .*

**General Discussion**

- *One of the challenges is how to keep the right key actors in the process due to the diversity of the stakeholders involved.*
- *To make easily understandable the climate information and keep involving the local community, the use of media and traditional communicators is necessary.*
- *Adding social information to the downscaling process may make it more reliable to better link the society*
- *In US, NCAR does not encourage using other climate models not supported by the institutions even though it is not preventing it*
- *While North America is mainly focusing on GCMs in contrast to Europe where RCMs are widely used due to the number of states.*