

WGRC: Working Group on Regional Climate

Relatively new

Broad TOR

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WGRC's focus

WCRP Mission: ... is to facilitate analysis and prediction of Earth system variability and change for use in an increasing range of practical applications of direct relevance, benefit and value to society.

WGRC's mission: is to

- prioritize / coordinate regional climate research within WCRP
- serve as the conduit for two-way information exchange between the WCRP and the various institutions and coordinating bodies that provide climate service including the Global Framework for Climate Services (GFCS)

The WGRC has a somewhat unique mandate to engage with the interface of the “user-community”, in addition to fostering regional scale research

e.g. from the TOR

- Facilitate WCRP research activities relevant to the provision of regional climate information and related climate services
- Integrate the user and decision maker context into the design and development of regional climate science

History of activities

- *3rd Session of the WGRC Feb 2015, Norrköping, Sweden: Cancelled - telecon*
- *2nd Session of the WGRC, 14-15 March 2014, Montevideo URUGUAY*
- *1st Session of the WGRC, 6-7 April 2013, Vienna AUSTRIA*

- 3rd CORDEX Workshop on Empirical-Statistical Downscaling Models, 31st May – 2nd June, 2015, Cape Town, South Africa
- **WGRC Expert Meeting on Climate Information "Distillation" 29-31 October 2014, Santander SPAIN**
- 2nd CORDEX Workshop on Empirical-Statistical Downscaling Models 30 July-1 August 2014, Buenos Aires ARGENTINA
- Side event at ISSC-3 on Regional Climate Science and Robust Foundations for Climate Services 3 December 2013, Montego Bay JAMAICA
- 1st CORDEX Workshop on Statistical Downscaling 26-27 September 2013, Trieste ITALY
- **Plus multiple region-specific CORDEX-related meetings and capacity building**

(Some of the) Action items from JSC-35

18. WGRC – RCC - RCOFs WGRC to consider how to effectively exploit the existing infrastructure elements of climate services, such as RCCs and RCOFs. Responsible: Ongoing discussions within WGRC and with WMO.

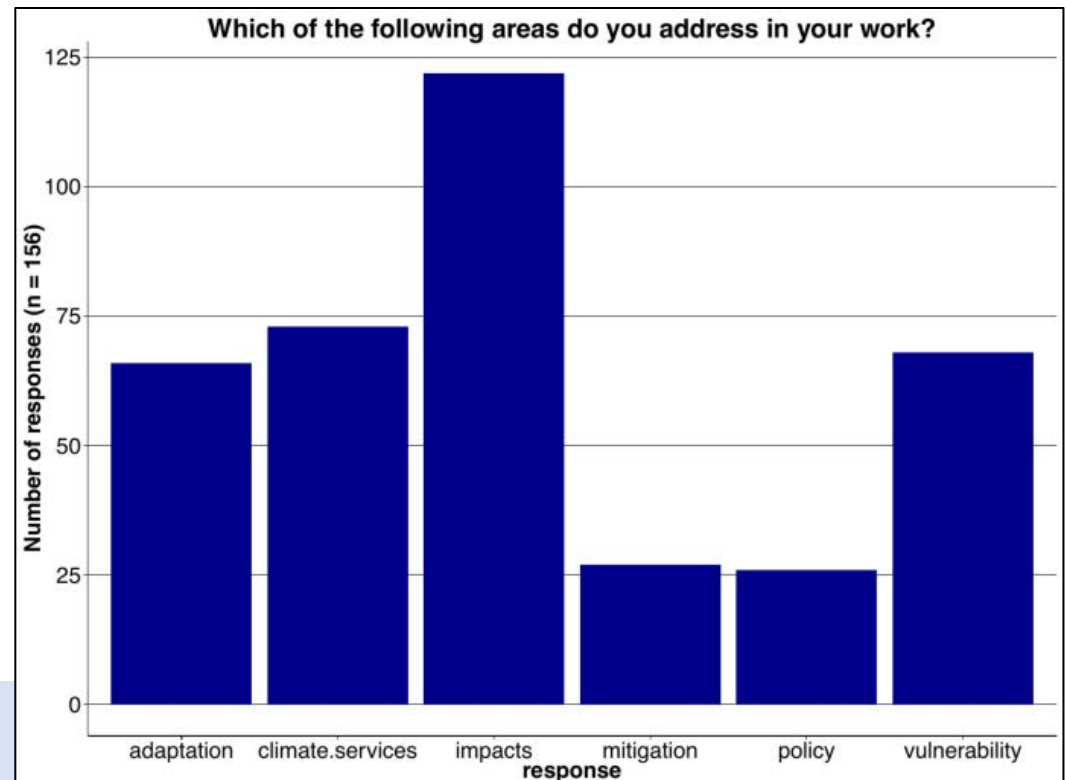
20. Synthesis paper on the status of model-based climate information on regional scales. As part of this activity consider organizing a science workshop with CORDEX, WGNE, WGCM, WGSIP and core projects. The Distillation workshop brought together most of these groups. We are considering an expert meeting on the added value of downscaling in conjunction with CORDEX2016 as part of the GC implementation strategy. Work toward the synthesis paper is still ongoing.

21. Develop a model evaluation strategy for regional climate information (based on global and regional products).

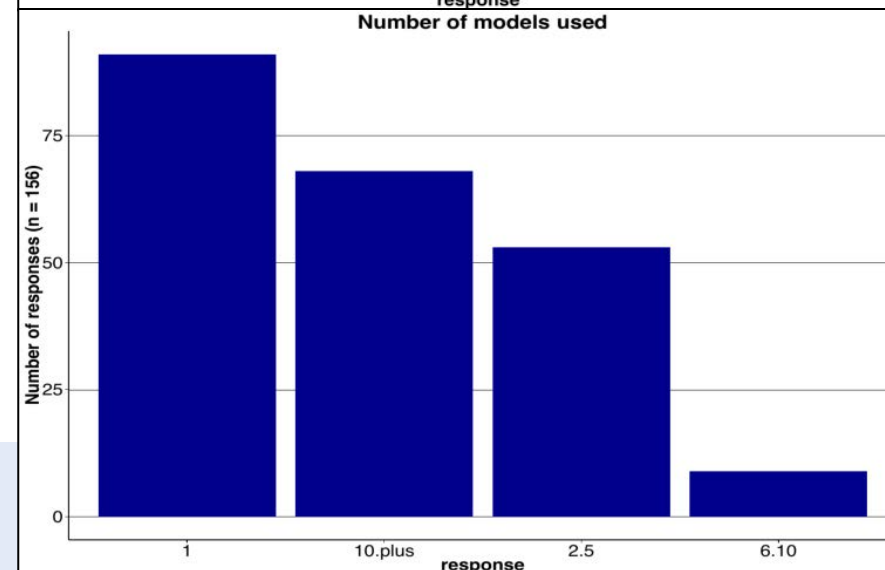
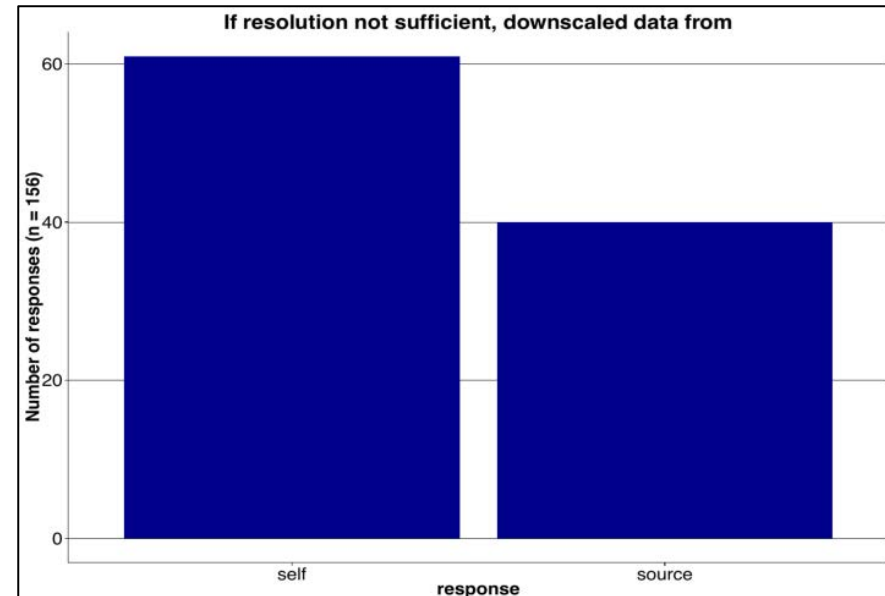
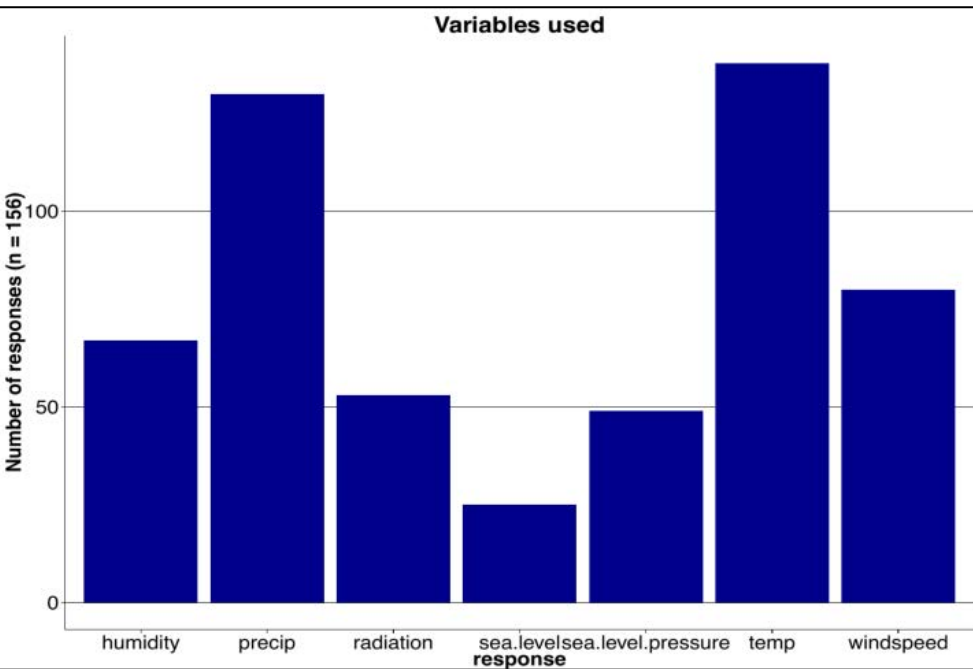
Ongoing actions are working on this, including collaboration with other activities; e.g. COST-VALUE, proposed CORDEX- MIP, metrics for assessing added value in downscaling.

Survey of the VIA community on CMIP outputs to help with the design on CMIP6

- Developed by members of WGRC (Goodess, Boscolo, Carter, Gotangco, Hewitson) together with Linda Mearns and Richard Moss
- Engages with the VIA communities to examine past and potential future use of climate model outputs from the CMIP5 archive and related sources
- 156 responses - Final draft report in progress



Survey of the VIA community on CMIP outputs to help with the design on CMIP6



WCRP WGRC Expert Meeting on Climate Information Distillation

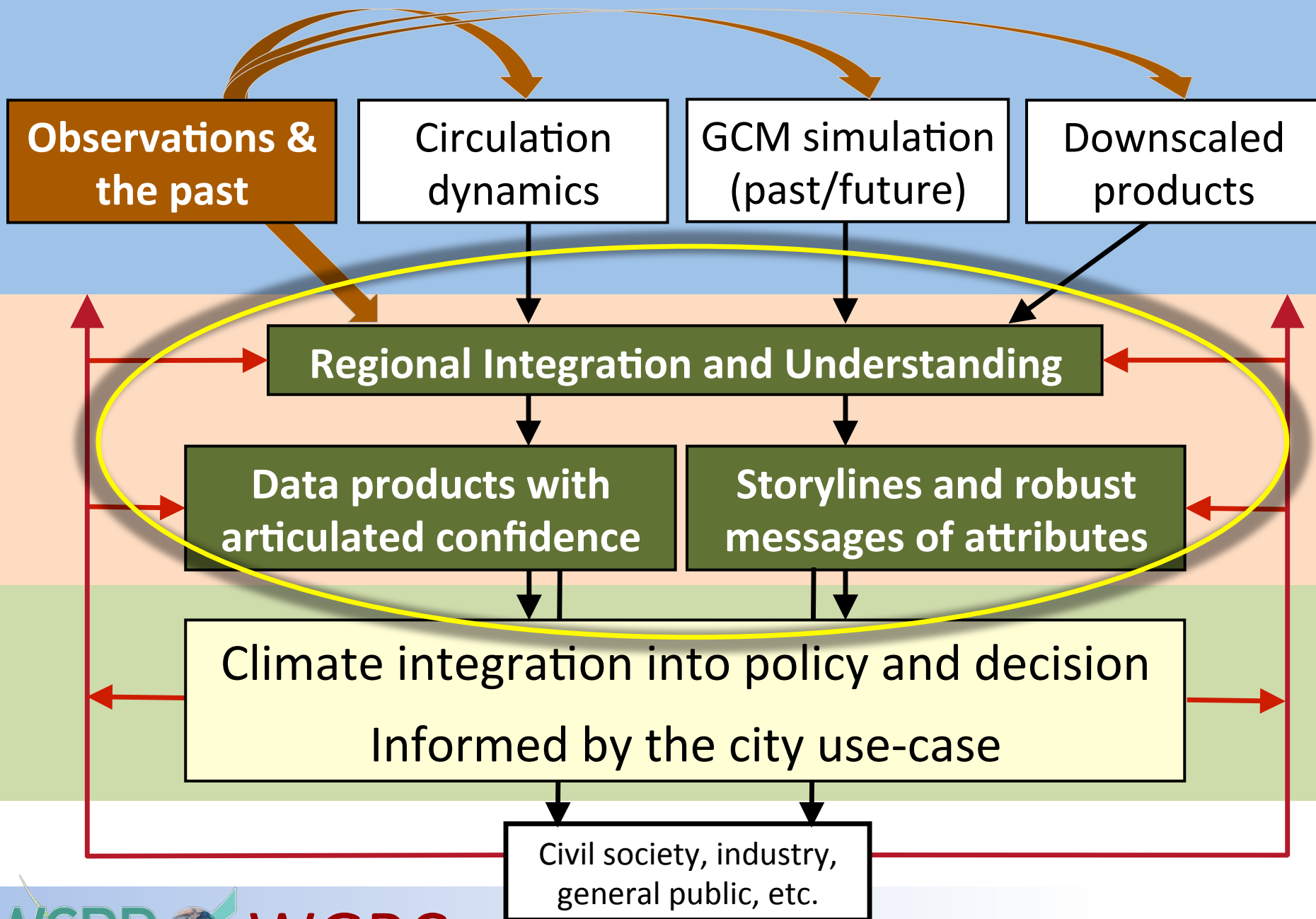
A WGRC Workshop on the Assessment, Analysis and Integration of Climate Information Conflicts

29-31 October 2014, Santander SPAIN



Arguably the leading complication for users of climate information for policy and adaptation is the spread of messages arising from data of historical change, GCM projections, downscaled projections from RCMs and statistical downscaling, and from other related spatial disaggregation methods. These

- Included participants out of the GCM, RCM, ESD, Observation, VIA communities.
- Limited talks, extensive discussion
- The workshop has catalyzed and/or informed on a number of subsequent activities, including some major projects, the development of the GC on Climate Information, and the evolving CORDEX framework.
- Engagements with external organizations has also elicited very strong support for the further development of research on this frontier.



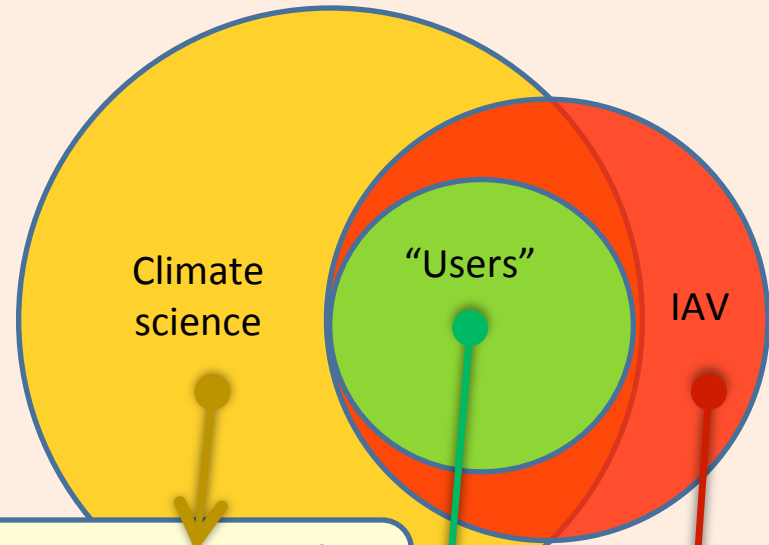
Partnerships

WCRP activities sit here, but are informed through partnerships with other WGs and with external organizations

Advancing understanding of change and variability in regional-scale climates

Integration in the stakeholder-scale of decision, risk management, and policy

Integrate climate science in the IAV communities



Partnerships: Essential component to enable WGRC to effectively contribute to bridging the physical science research into the application space.

Ongoing activities with, for example:

- TGICA (guidance docs, regional content on the DDC)
- PROVIA (exploring VIA issues)
- Future Earth ... limited engagement to date
- CR4D ... core involvement in development
- GCOS ... contributing to discussion on regional information needs
- CSP ... developing materials around “ethics” of regional information
- GFCS ... in relation to implementation plans and engaging relevant structures
- Submitted comments on the full range of proposed MIPs, and are involved in the proposed VIAAB and in oversight with the CORDEX-MIP

Connection to the Climate Information GC

- The activities of the WGRC have been integral to this development (after inheriting the initial concepts from earlier authors).
- Conversely, the climate information GC is integral to the WGRC portfolio of activities
- The co-engagement has produced the current suite of science questions, framed by the GC as “Climate Information”.

Connection to the Climate Information GC

Emergent science questions (examples)

- Understanding sources of uncertainty at regional scales
- Limits to skill as a function of model, method, scale, location
- Relationship of disparities/contradictions between data sources to choice of method/scale/assumptions
- The regional representation of multi-scale process co-behaviour in conditioning local climate responses
- How to effectively address the bias correction complication
- Understanding stationarity implications of methods
- Determining added value from downscaling
- How to integrate across method / model alongside a “probabilistic / incomplete history”

Key foci going forward

In need of a face-to-face committee meeting to build WGRC momentum in:

- Continued facilitation of research around developing regional information (esp. the GC frontier project ideas)
- Evolving analysis approaches to develop new approaches to regional evaluation, assessment, and analysis (continuing the distillation workshop ideas)
- Development of guidance materials relevant to the development and application of regional information
- Further engage on the interface with other communities to integrate the user and decision maker context into the design and development of regional climate science

+ of course, generating funding!