

WCRP REPORT

World Climate Research Programme



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Report of the 1st Session of WCRP Working Group on Regional Climate

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The Working Group on Regional Climate (WGRC) held its 1st meeting at the Austrian Central Institute for Meteorology and Geodynamic (ZAMG) on 6-7 April 2013, in Vienna, Austria.

Attending: Clare Goodess (Co-Chair), Bruce Hewitson (Co-Chair), David Behar, Timothy Carter, SeitaEmori, Kendra Gotangco, Igor Shkolnik, Fernanda Zermoglio, Ghassem Asrar (WCRP), Ernst Rudel (ZAMG)

Teleconference: FilippoGiorgi (CORDEX), Filipe Lucio (WMO GFCS)

Apologies: Simon Mason (CLIVAR), Jan Polcher (GEWEX), Annette Rinke (CLIC), Sam Dean (SPARC), Willem Landman, Roberta Boscolo (WCRP/WMO), Colin Jones (CORDEX).

Agenda and full list of participants can be found in the Appendices 1 and 2, respectively.

1. Welcome and Introductions

Introductory remarks were received from Ghassem Asrar as WCRP Director, Ernst Rudel representing ZAMG (meeting host), and the WGRC Co-Chairs.

The Co-Chairs and Working Group (WG) members introduced their personal perspectives in the context of the WG terms of reference, and the opportunities for contribution to coordination of regional climate research and science-based knowledge development for decision makers. The WG decided to continue reviewing this as part of the discussion on terms of reference and to revisit and discuss it once more during the concluding session of this meeting.

The general outcome of this introductory session was an agreement to develop an action plan and to identify a few exciting activities that can capture the interest of target communities towards fulfilling the WGRC mandate.

***ACTION:** Develop an action plan to guide activities of the WGRC, and to mobilize community interest and required resources to implement.*

2. Minutes of the Teleconference 23 Nov 2012

The minutes of the teleconference were reviewed and accepted (see [Appendix 4](#))

3. Terms of Reference (ToR)

The WG terms of reference were revisited. It was noted that some of the language needed to be clarified. Rephrasing was suggested as:

- Bullet #2: Replace with the following text: “To integrate the regional user and decision maker context into the design and development of regional climate science through two-way communication and co-production activities.”
- Bullet #3: replace “To ensure that regional climate science is a visible activity ...” with “To work to make regional climate science a visible activity ...”
- Bullet #3: Remove specific reference to outside organizations.
- Bullet #4: replace “This includes ensuring that observing networks are maintained over the long term and adapted to user needs” with “This includes helping to ensure that observing networks are maintained over the long term and adapted to user needs”
- Bullet #5: replace the sentence “To provide advice regarding the provision and communication of information for regional impact assessment, decision making and climate services particularly, as first priorities, as related to water, health, food and disaster risk reduction.” With “To provide advice regarding the provision and communication of information for regional impact assessment, decision making and climate services as related to, for example water, health, food and disaster risk reduction.”

It was agreed to revisit the ToR as a final agenda item of the meeting (see [Appendix 5](#))

***ACTION:** To forward the revised ToR once agreed by the WGRC to the JSC for formal approval. Whenever possible, future modifications will be made to the Action Plan rather than to the ToR.*

4. WGRC Web Site

The current site was reviewed, and agreed that this was adequate at present. Ghassem Asrar noted that the WCRP resources are available to evolve the web site, as need be. There was a brief discussion of the communication and outreach activities by the WG, and the current web page. A need for describing and documenting emerging data and information products to identify the strengths and weaknesses of such products will be an effective communication mean for managing expectations. It was suggested that the Co-Chairs should develop a short preamble to be posted on the web site introducing the WG perspective on this topic.

***ACTION:** Co-Chairs develop a short preamble on a WG perspective of the strengths and limits of the types of emerging and existing data products, to be circulated for comment by the WG and posted on the web site.*

5. GFCS: Teleconference with Filipe Lucio (WMO)

Filipe Lucio joined via Skype and gave a presentation introducing the current status and activities of the GFCS. The presentation is available as part of the meeting proceedings.

Following the presentation a time of open discussion examined the relationship between the WGRC and GFCS. The main themes of discussion were the functions of WGRC vis-à-vis the GFCS implementation, and mechanism(s) for their engagement. The WG was reminded that the WCRP will continue to lead in coordinating the research, modelling and prediction priorities of GFCS in coordination with other partners, and the other four major GFCS pillars. The WG may also have the opportunity for greater engagement through scientific and technical subsidiary bodies that will be established by the International Board overseeing implementation of GFCS. The WG members were invited to review and provide their comments on Annexes and Exemplars components of the GFCS implementation plan.

Specific questions raised with Filipe Lucio that are of direct relevant to WGRC included:

- How does the GFCS see the outworking of linkages between communities? It was noted that this needed to be heterogeneous depending on region and context.
- The challenge of bridging temporal scales. The perspective that a seamless approach was needed, but that initially GFCS would focus on decadal and longer timescales.
- Mechanisms of communication between WGRC and GFCS. The perspective was put that for now the communication should be via the director of WCRP, but it was acknowledged that there was a need to create a space for more direct dialogue.
- How far do the GFCS pilot projects go along the continuum from science to on the ground implementation? It was noted that the initial focus was to be on needs and requirements of users.

The point was made that the WGRC should be proactive in helping shape the GFCS landscape through communications and comment, as well as proposing specific initiatives for GFCS funding and/or support. It was further noted that this was an excellent opportunity for WGRC to introduce a bottom-up perspective in addition to the more dominant top-down approach of the GFCS.

The broader question was also raised of to what extent is GFCS being led from developed countries and being ‘parachuted’ in to developing countries? It was noted that there is a need for principles and criteria to evaluate proposals – regardless of where the funding/initiative is coming from.

It was noted that new mechanisms of communication between the GFCS and stakeholders including the WGRC may emerge following the International Board meeting 1-5 July 2013.

In closing discussion on the relationship between WGRC and GFCS, it was noted that the WGRC is complementary to, rather than guided by the GFCS.

***ACTION:** Review the Annexes and Exemplars of GFCS implementation plan, and provide comments to the WCRP Secretariat for integration and inclusion in the plan as well as input to further discussion during the next WGRC meeting. Develop a set of responses to the RMP for communication to Vladimir Ryabinin by the 10th April (Co-Chairs to lead). Co-Chairs to provide comments on the guiding principles for selecting projects.*

6. WGRC and the WCRP Grand Science Challenges

This discussion focused on the role of WGRC in development and implementation of the WCRP Grand Science Challenges, especially the one on provision of regional climate information for decision makers. There was a general agreement among the WG members that the current concept paper for this grand challenge does not pay sufficient attention to the user’s needs for climate information, and ease of access to such information. The WG members agreed to review the current draft paper on this grand challenge with two major themes in mind: what are some concrete and exciting activities that the WG can develop and implement in support of this grand challenge (see also agenda items 8 and 10); and, what is/are other imperatives that should be included in the concept paper. Key questions to consider in reviewing the document are:

- Are the right scientific questions asked? Could they be better framed? Are there some questions missing? Do we wish to propose additional Frontiers?
- Within our perspective of how these questions should be prioritised, what then are initiatives the WGRC might want to foster?

***ACTION:** Review the concept paper for the Grand Science Challenge on Regional Climate and provide feedback to the Co-Chairs.*

7. CORDEX: Teleconference with Filippo Giorgi

Filippo Giorgi, Co-Chair of CORDEX, joined via Skype and gave a presentation introducing the current status and activities. The presentation is available as part of the meeting proceedings. Following the presentation a time of open discussion examined the relationship between the WGRC and CORDEX.

The presentation and discussion covered the following key points:

- Progress in different regional domains, noting no formal coordination exists for Central America and Australia.

- Two new domains have been proposed; MENA and SE Asia. Procedures for formalizing new domains were yet to be formalized.
- Data management for creating a consolidated repository was currently not optimal. SMHI were currently engaged in trialling new procedures for upload onto the ESG following CMIP-5 protocols. Subject to this being successfully completed, the CORDEX Co-Chairs would draft a guidance document for other CORDEX groups. Discussions were currently underway between the CORDEX Co-Chairs and the IS-ENES2 project team on the principles under which CORDEX data would be hosted on the ESG.
- CORDEX management. Further to the discontinuation of the TFRCD, the CORDEX programme was managed by the two Co-Chairs and a Scientific Advisory Team (SAT). Colin Jones, as one Co-Chair, was stepping down and would need to be replaced. Bruce Hewitson and Clare Goodess would likewise step down from the SAT due to conflict of interest. Thus, three replacements are needed. The WG also noted the bias in expertise of the SAT and suggested that the SAT be marginally expanded to accommodate greater representation on statistical downscaling and user's interests. It was suggested that the CORDEX Co-Chairs invite the CORDEX domains experiment coordinators to be ex-officio members of CORDEX SAT, and ensure broader representation of disciplines, expertise, geographical and gender distribution in future SATs. William Gutowski (USA) was proposed as the replacement CORDEX Co-Chair, and was unanimously endorsed by the WGRC Co-Chairs and members present. A number of names were suggested for the SAT, and these would be reviewed and shortlisted by the WG Co-Chairs and forwarded as candidates for the next SAT to the CORDEX Co-Chairs to develop the full roster of SAT for review and approval by the WGRC before submission to the JSC at their upcoming meeting in May 2013, in Brasilia, Brazil.
- ICRC-CORDEX 2013: it was noted that there was a need to promote the meeting to encourage abstract submission by the deadline. All participants were requested to use their networks to do this.
- The statistical downscaling component of CORDEX was identified as in need of further development, and particularly to integrate this with the framework and structure of the RCM thread. Bruce Hewitson noted that he and William Gutowski had recently had a proposal for funding approved to support statistical downscaling in CORDEX through a series of three workshops, which would be implemented later in 2013.
- For North America David Behar gave a presentation on current activities which is available as part of the meeting proceedings. It was reported that an initial steering committee had been established that included David Behar, Lawrence Buja, William Gutowski and Linda Mearns. In addition, positive progress is being made in establishing a working group with emphasis on applications, developing a questionnaire and telephone survey, and literature review of cases and successful practices in use of climate information for decision making. The next step is to secure required funding to develop required ensemble products for future use.
- With regard to CORDEX governance, the WGRC Co-Chairs would meet in the following week with the CORDEX Co-Chairs to explore the practicalities of this, and report back at the next WGRC meeting.
- The WGRC website needs additional information on CORDEX from the user perspective (including use of CORDEX outputs in current and ongoing projects). Fernanda Zermoglio and David Behar to lead a process on this – and the WGRC and CORDEX Co-Chairs would contribute.

***ACTION:** William Gutowski would be approached by the Co-Chairs to gauge willingness, following which formal recommendation through the appropriate WCRP channels would be made to approve his appointment as CORDEX Co-Chair. The WG would recommend additional names to the CORDEX Co-Chairs for selection as possible SAT replacements / additions.*

***ACTION:** David Behar and Fernanda Zermoglio to develop additional user perspectives on CORDEX for inclusion on the web site.*

8. WGRC Initiatives

Open discussion was held on the development of exciting and compelling initiatives to be promoted by the WG and its network of partners. The general discussion on this topic led to the emergence of several important principles for guiding the development and implementation of such initiative; 1) co-development and co-production of knowledge to serve the needs of science and society, recognizing the experimental nature of this new enterprise to develop actionable information; 2) active engagement of partners and boundary organizations to ensure effective and timely use of the resulting knowledge.

This discussion led to two leading themes being suggested as the basis for development. On the aspect of core research, the challenge of integration and analysis of multi-model multi-method climate information was identified as a leading and critical issue for the WG and broader communities. On the aspects of users of climate information it was suggested that developing guiding principles for use of regional climate predictions/projections - in cognizance of the nature of a semi-stochastic systems with feedbacks, tele-connections and thresholds - was of key importance. It was further suggested that the guiding principles could come from both directions: 1. Considering the users of the info and their barriers/needs towards understanding and applying and 2. Considering the scientists and their barriers/needs towards communicating/interactions with user community.

These two foci present significant opportunities for developing the WG activities, and contributing valuably to the broader sphere of regional climate research.

***ACTION:** Two task teams will be established by the Co-Chairs allocating the WG members - one on the core climate research, and one on the principles.*

9. Future Earth

The background to this initiative was outlined by Ghassem Asrar. This and the following discussion highlighted the need for greater engagement of social sciences and humanities with the core physical science activities. There is a need to consider solutions and not just knowledge generation. A broad range of different communities/councils/funding agencies has been brought together in an alliance with this vision, and there is commitment to support the vision. The challenge now is to find the appropriate means of implementation. WCRP has a commitment to engage and bring in the climate community to support Future Earth; however, the WCRP secretariat will not be merged with the Future Earth Secretariat because of the differences in governance structure and policies of the three WCRP major sponsors. WCRP will support and facilitate research on climate aspects of the research objectives identified by Future Earth.

For now, the relevance to the WG is that the WG needs to stay abreast of Future Earth activities, keep aware, and read the relevant documents. More specific input would be through WCRP.

***ACTION:** Engage to set up a possible teleconference from Future Earth at the next WGRC meeting.*

10. Communication and Promotion of the WGRC (including documents, workshops, meetings, etc)

The WG members were invited to identify possible actions and opportunities in relation to raising the visibility of the new WG in the upcoming scientific and technical conferences and other communities. The purpose is to share the vision and initiatives of the WG to attract active engagement of the community of experts, and to obtain their feedback. Several different models were identified for engagement of the WG members in such meetings. A range of perspectives was raised:

- Rather than embarking immediately on drafting comprehensive documents, the immediate actions should be to scope and draft skeletons of potential documents.
- Need to announce ourselves to the community - e.g., short journal article. However, this is probably for a little later in the process
- Developing provisional guidance on information use - e.g., on understanding information in the context of scales in space and time, on use in decision making, limits to information, etc. A scoping document was suggested to be taken forward by Fernanda Zermoglio, Bruce Hewitson, and Kendra Gotangco.
- A commentary document on GFCS and Future Earth and what do we see as being at the forefront of the agenda. There is a need to mature our thoughts on this. A possible target is a draft journal article by November. Clare Goodess will lead co-ordination and development of a skeleton for this.
- The idea for a 'language' document? More than a glossary, and focusing on terms that have different meanings across communities. This is something to work towards.
- Material to form a communication package consisting of short concept note(s), a brochure, and slides to be used on the web site and by the members for such events.
- Identify targets of opportunity at the upcoming major conferences, especially regional climate conferences being coordinated by WCRP, to promote the WG plan and priorities and to solicit the views of interested participants in WG activities.

***ACTION:** By 1 May, establish key events that the WG members are attending – and where they can deliver WGRC input - e.g., use of PR material. Roberta to set up Google group for us and set up table where members can add their information.*

***ACTION:** ICCS-3 - 4-6 December 2013, Jamaica: Fernanda Zermoglio, Clare Goodess and David Behar to talk to Cathy Vaughan.*

***ACTION:** Development of a skeleton (including scope) of a guidance document on using climate information: led by Fernanda Zermoglio, Bruce Hewitson, and Kendra Gotangco.*

ACTION: *A short concept note, brochure, and slides to form a generic communication package: led by Co-Chairs with WCRP staff support.*

ACTION: *Skeleton of a commentary document on GFCS and Future Earth: led by Clare Goodess*

11. Next WGRC Meetings

While CORDEX 2013 in Brussels presents one opportunity, it was considered that with so many other adjunct meetings this is unsuitable. However, for those WG members attending the Brussels meeting, informal consultation can take place, and members should avail themselves of the opportunity to attend the regional side events to present the WGRC. In particular, it would be good for the WGRC to be represented at each of the proposed CORDEX regional meetings.

A teleconference will be held most likely towards the end of August. A doodle poll for dates will be set up.

ICCS-3 is identified as the one opportunity to formally meet, and will be taken under consideration in the teleconference. A further option, possibly the most viable, is the LAC conference on 17-21 March 2014, in Montevideo, Uruguay.

***ACTION:** Set up a doodle poll for the teleconference.*

***ACTION:** Decide on the dates and venue for the next WG meeting in 2014.*

12. Final Review of the Terms of Reference (ToR)

The following additional changes to the ToR were suggested:

- Bullet #6 - change 'best practice' to 'good practice'
- Bullet #7 - replace ESSI with Future Earth
- Bullet #8 - remove names of organizations (include in action plan as appropriate)
- Proposed new bullet point: "To liaise, as appropriate, with other organizations or bodies developing scenarios of environmental and socioeconomic conditions, to consider the consistency and plausibility of regional climate projections in the context of integrated scenario development."

13. AOB

The meeting concluded with general other business.

It was agreed that one of the CORDEX Co-Chairs would attend at least the next appropriate WGCM meeting (the next meeting is on 1-3 October 2013, in Victoria), and invite the WGCM to brief the WGRC via a teleconference at the next WGRC meeting. Communication between CORDEX and the WGCM has in the past been through Colin Jones in his capacity as CORDEX Co-Chair. This has been very effective and identified experts on WGCM to help inform CORDEX activities.

Ghassem Asrar was thanked for taking the time and effort to join the first session of the WGRC. Ernst Rudel and ZAMG were thanked for hosting the meeting. Roberta Boscolo and Teresa Alcober were thanked for their work in organizing the meeting.

Ghassem Asrar conveyed great appreciation on behalf of the WCRP to the host ZAMG and the WG for giving up their weekend to participate in this meeting. He expressed personal enthusiasm for the prospect of significant and defining contributions by this WG to the WCRP, the GFCS and Future Earth initiatives. He invited the WG members to assist the WCRP with its regional capacity development efforts to train the next generation of climate scientists, especially in developing parts of the world.

APPENDIX 1 – Agenda

Saturday 6 April		
1. 0930-0950	Welcomes and introductions	
2. 0950-1000	Minutes of the teleconference 23 November 2012	<ul style="list-style-type: none"> • Agree minutes • Matters arising not on Agenda
3. 1000-1045	Terms of reference (ToR)	<ul style="list-style-type: none"> • Review of latest draft (available on web site) • Review of comments/questions received on earlier drafts (some need further discussion/clarification) • Agree revised version <p>Next steps for finalizing</p>
4. 1045-1100	WGRC web site	<ul style="list-style-type: none"> • Review of current site • What else do we want to add?
1100-1130	<i>Coffee break</i>	
5. 1130-1300	GFCS	<ul style="list-style-type: none"> • Presentation on GFCS status from WMO (Filipe Lúcio TBC) • Discussion items: <ul style="list-style-type: none"> ○ What is WGRC role, input, and on what GFCS pillars. This recognizes that the implementation of the GFCS is intended to be guided by new and/or existing bodies – to be clarified by the International Board for GFCS meeting from 1-5 July 2013 where governance will be finalized. ○ To what extent should WGRC be led by GFCS needs, versus being a complement to GFCS needs. ○ What are possible effective interfaces (through existing and/or new channels) with the GFCS. ○ (possible) formal mechanism(s) that could be established for communication with GFCS ○ What bearing does this have on the WGRC ToR • Identification of specific actions to be taken by WGRC arising from the above.
1300-1400	<i>Lunch</i>	

6. 1400-1530	WCRP Grand Science Challenges	<ul style="list-style-type: none"> • WGRC role/input to WCRP Frontiers 3 (Reliability and value of long-term regional climate change projections) and 4 (Definition of usefulness: informing the risk management and decision making space) of Grand Challenge 1 Regional climate information • Development of an initial set of priorities and objectives to guide our activities – what are our science imperatives that we want to promote and from which we will be able to speak into GFCS, CORDEX etc? • Possible priority foci <ul style="list-style-type: none"> ○ Can we provide skilful regional climate predictions at seasonal to decadal time scales and reliable and actionable long term regional climate change projections? ○ Can we determine regional limits to CC signal in relation to natural variability?
<i>1530-1600</i>	<i>Tea/coffee break</i>	
7. 1600-1700	WGRC and collaborative workshops	<ul style="list-style-type: none"> • Participation of the WGRC in Grand Challenge workshops being planned for 2013/2014 • Developing workshop(s) for the regional Grand Challenge – in partnership with CORDEX, other WCRP core projects and/or taking advantage of other planned regional conferences • Possible topics/focus and timing • Identification of workshop(s) goals, scope, targeted participants, funding • Straw man idea: partner with the first SD CORDEX workshop to focus on either the role of natural variability at the regional scale and limits to skill on regional projections, or on integrating regional projections across methods.
Sunday 7 April		
8. 0930-1100	CORDEX	<ul style="list-style-type: none"> • Overview and update of current status from CORDEX Co-Chairs • Mechanisms for implementing the relationship indicated in the ToR (WGRC to ‘oversee’ CORDEX) • Applications and user needs (collaboration between users and

		<p>providers) – to include a report from February 2013 NA-CORDEX workshop</p> <ul style="list-style-type: none"> • Developments on Statistical downscaling aspects of CORDEX • Input of the WGRC into the ICRP-CORDEX 2013 program <ul style="list-style-type: none"> ○ First day? ○ Possible panel hosted by WGRC – to reflect this meeting and plans, perhaps with a discussion session to open it to the community – feedback from open Q&A
<i>1100-1130</i>	<i>Coffee break</i>	
9. 1130-1215	Proposed task team and scoping document – defining the WGRC scope of activities	<ul style="list-style-type: none"> • Drafting of framing guidance during the meeting • Agreement of task team membership and timetable • Identification of key questions/issues for discussion, e.g.: <ul style="list-style-type: none"> ○ How far down the continuum (research to users; and international programs to national/sub-national activities) should/can we go? ○ Identification of appropriate mechanisms for interacting with the decision-making community
10. 1215-1245	Setting up channels for formal interaction and communication	<ul style="list-style-type: none"> • To what extent should we be explicitly naming the external agencies, versus establishing generic communication structures that can be connected as needs arise? • Bodies named in ToR: GFCS, JCS, ESSI, CSP, CORDEX, IGBP, WWRP, WMO, IOC, ICSU • Others?
11. 1245-1300	Future Earth	<ul style="list-style-type: none"> • Discussion on possible interaction with the Future Earth ICSU initiative on research for global sustainability
<i>1300-1400</i>	<i>Lunch</i>	
12. 1400-1430	Publication of reports and possible first topic(s)	<ul style="list-style-type: none"> • Discussion of possible topics, writing teams and timing • Straw man idea: first report focused on the WGRC science priorities, their motivation, and how these relate to GFCS and other initiatives (i.e. a report of motivated priorities from WGRC’s perspective, and secondarily how these relate to other initiatives) to be produced ahead of ICRP/CORDEX 2013.

		<ul style="list-style-type: none"> • Provision of best practice guidance (see ToR 7).
13. 1430-1445	Mapping the research/climate services interface (stocktaking)	<ul style="list-style-type: none"> • Do we want/need to construct a database of relevant activities? • At what (spatial) level? Note strong synergies with TGICA here and perhaps opportunity for collaboration • What do we already know about from our personal experience/networks? • And what other exercises can we draw on? E.g., Future Earth • Process for constructing/reviewing
14. 1445-1500	Other major conferences	<ul style="list-style-type: none"> • Are there other major conferences/events over the next couple of years to which we should aim to have an input? • Mechanism for ensuring that we remain conscious of opportunities
15. 1500-1515	Future WGRC meetings	<ul style="list-style-type: none"> • Teleconferences • Face-to-face meetings <ul style="list-style-type: none"> ○ 8 November Brussels? ○ Others?
16. 1515-1545	Final review of actions and ToR	<ul style="list-style-type: none"> • Checklist of actions • Review to check that we have actions/activities addressing each of the ToR and consistency of redrafted ToR with meeting decisions
17. 1545-1600	AOB and close	

APPENDIX 2 – List of Participants

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APPENDIX 3 – Actions

ACTION	FURTHER DETAILS	WHO	WHEN
Develop an action plan to guide activities of the WGRC, and to mobilize community interest and required resources to implement.	See April 2013 WGRC minutes, item 1.	Co-Chairs + Members	Ongoing
To forward the revised ToR once agreed by the WGRC to the JSC for formal approval.	See April 2013 WGRC minutes, items 3 and 12.	Co-Chairs	May 2013
Develop a short contribution for the web site introducing the WG perspectives on caveats associated with the available regional climate information products, and some future products under development.	See April 2013 WGRC minutes, item 4.	Co-Chairs + input from WG	June 2013
Review the Annexes and Exemplars of GFCS implementation plan, and provide comments to the WCRP Secretariat for integration and inclusion in the plan as well as input to further discussion during the next WGRC meeting.	<p>See April 2013 WGRC minutes, item 5.</p> <p>Our role in reviewing these documents:</p> <ul style="list-style-type: none"> ▪ Where can WGRC best feed in? (strategic influence and guidance) ▪ gaps from WGRC perspective (especially where we can bring expertise) <p>Documents to review: http://www.wmo.int/pages/gfcs/office/Exemplars.php</p>	<p>The following people were allocated to specific documents, but this should not preclude others.</p> <p>RMP: SD, WL, IS, SE Obs & monitoring: BH, JP UIP: KG, CG CSIS: SM, DB Capacity building: FZ, WL</p> <p>Water: DB, JP Agriculture: TC</p>	For circulation to WG in advance of the next WGRC meeting

Develop a set of responses to the RMP for communication to Vladimir Ryabinin.	See April 2013 WGRC minutes, item 5.	CMG to co-ordinate	10 April 2013 - completed.
Review the concept paper for the Grand Science Challenge on Regional Climate and provide feedback to the Co-Chairs.	See April 2013 WGRC minutes, item 6 for themes and review questions. Document to review: http://www.wcrp-climate.org/documents/GC-regionalINFO-Draft2.pdf	All WGRC members.	1 June 2013
Recommend William Gutowski to replace Colin Jones as CORDEX Co-Chair. The WG would recommend additional names to the CORDEX Co-Chairs for selection as possible SAT replacements / additions.	See April 2013 WGRC minutes, item 7.	Co-Chairs (based on recommendations received from members)	May 2013
Develop additional user perspectives on CORDEX for inclusion on the web site.	See April 2013 WGRC minutes, item 7.	David Behar and Fernanda Zermoglio	July 2013
Two task teams will be established by the Co-Chairs allocating the WG members; one on the core climate research, and one on the principles.	See April 2013 WGRC minutes, item 8.	Co-Chairs	May 2013
Engage to set up a possible teleconference from Future Earth at the next WGRC meeting.	See April 2013 WGRC minutes, item 9.	Co-Chairs and WCRP	Before next WGRC meeting.
Establish key events that the WG members are attending – and where they can deliver WGRC input – e.g., use of PR material.	See April 2013 WGRC minutes, item 10.	RB to set up Google group for us and set up table where members can add their information.	Google group completed. Members to add information by end May.
Discuss how WGRC can feed into ICCS3 and possibility of organising a side event.	See April 2013 WGRC minutes, item 10.	CG/FZ/DB to talk to Cathy Vaughan	May 2013

Development of a skeleton (including scope) of a guidance document on using climate information.	See April 2013 WGRC minutes, item 10.	Led by FZ, BH, KG	To feed into next WGRC meeting
A short concept note, brochure, and slides to form a generic communication package.	See April 2013 WGRC minutes, item 10.	Led by Co-Chairs with WCRP staff support.	As soon as possible
Skeleton of a commentary document on GFCS and Future Earth.	See April 2013 WGRC minutes, item 10.	Led by CG	To feed into next WGRC meeting
Set up a doodle poll for the teleconference.	See April 2013 WGRC minutes, item 11.	RB to set up and members to complete	May 2013
To attend at least the next appropriate WGCM meeting and invite the WGCM to brief the WGRC via a teleconference at the next WGRC meeting	See April 2013 WGRC minutes, item 13.	Co-Chairs	Next WGCM meeting is 1-3 October 2013, Victoria
To co-ordinate the three opening talks for the ICRC-CORDEX 2013 meeting.	See minutes of WGRC/CORDEX Co-Chair meeting 10 April 2013.	BH, CG, TC, KC	Completed
Establish contact between WGRC and WGSIP.	See minutes of WGRC/CORDEX Co-Chair meeting 10 April 2013. Context is planning for CMIP6 and CORDEX 2.	Co-Chairs	Before next WGRC meeting

AR Annette Rinke, BH Bruce Hewitson, CG Clare Goodess; DB David Behar, FZ Fernanda Zermoglio, GA Ghassem Asrar, IS Igor Shkolnik, JP Jan Polcher, KG Kendra Gotangco, RB Roberta Boscolo, SD Sam Dean, SE Seita Emori, SM Simon Mason, TC Timothy Carter, WL Willem Landman

APPENDIX 4 – Minutes of the Teleconference on 23 November 2012

Minutes of 1st Teleconference of the WCRP Working Group on Regional Climate

Friday 23 November 2012 16:30-18:00 CET

Participants:

GhassemAsrar, Director WCRP, Switzerland
David Behar, S. Francisco Public Utilities Commission, USA
Roberta Boscolo, WCRP Secretariat, Switzerland
Tony Busalacchi, ESSIC, Uni. Maryland, USA
Timothy Carter, Finnish Environment Institute (SYKE), Finland
SeitaEmori, National Institute for Environmental Studies, Japan
FilippoGiorgi, ICTP, Italy
Clare Goodess (co-chair), Uni. East Anglia, UK
Kendra Gotangco, Ateneo de Manila University, Philippines
Bruce Hewitson (co-chair), Uni. Cape Town, South Africa
Simon Mason, IRI, USA
Jan Polcher, CNRS, France
Annette Rinke, AWI, Germany
Igor Shkolnik, Voeikov Geophysical Observatory, Russia
Fernanda Zermoglio, World Bank, USA

Apologies:

Sam Dean, NIWA, New Zealand
Willem Landman, Uni. Pretoria, South Africa

1. Context and expectations of the WGRC from the WCRP/JSC perspective

The Chair of Joint Scientific Committee (JSC) opened the telecon by providing a quick overview of the deliberations by the JSC and senior leadership of the WCRP that led to the development of this working group and its terms of reference. He stated that the current terms of reference (ToR) should be considered as a draft working document and he invited the working group to send their suggested changes to the JSC for approval. The Director of WCRP stated that considering the newness of this working group we may suggest to keep the ToR as a living document for some period and refine it based on lessons learned and experience gained from your activities.

One specific question to the JSC Chair was on the relationship between CORDEX and this working group. He stated that CORDEX should be viewed as a major activity of this working group and because of the CORDEX importance to WGRC, its co-chairs (FilippoGiorgi and Colin Jones) are invited to serve as ex-officio members.

The next question was on the relationship between this working group and the Global Framework for Climate Services (GFCS). The WCRP Chair and Director stated that this working group is expected to develop the WCRP plan and approach to an effective interface with GFCS. Specifically, given the GFCS pillars (i.e. observations, research, information, user interface and capacity development), and the recognition of WCRP major strengths in observations, research and prediction, how far down the continuum from research and users and decision makers should WCRP extend its reach to ensure that its research findings and

results will benefit decision making (e.g. through GFCS information system and user interface pillars)?.

They stated that WCRP will explore all existing and available programs and partnerships to fulfill the objectives that the working group identifies, and WCRP is also prepared to establish new mechanisms and activities that are required to fulfill such objectives.

2. Participants' introductions

The working group spent some time on self-introduction of its members and their areas of expertise and interest. The WCRP Director stated that he and Dr. Roberta Boscolo, WCRP communication officer, will be supporting the working group activities from the secretariat.

3. WGRC mandate and Terms of Reference (ToR)

The co-chairs opened the discussion on the ToR and invited the members to comment during the telecon and/or provide their comments to the co-chairs in writing by 7 December. One question was a lack of emphasis on regional observations/observing systems. Is this a part of the mandate of this working group? What role can this working group play in highlighting this very important topic? We can clearly work with the rest of the WCRP network (e.g. Core Projects, WGs and Councils) and sister programs such as GCOS and Earth System Science Partnership (ESSP) in addressing any topics that transcend boundaries beyond this working group's mandate.

ACTION: The working group members are requested to send their comments and feedback on ToR to the co-chairs by 7 December 2012. The suggested changes to the ToR will be communicated to the JSC Chair by the co-chairs for approval.

Another question was on the process leading to the current near-term priorities (i.e. climate and water, health, food security and disaster risk). The chairs responded by stating that these are near-term priorities emerging from considerable deliberations during the development of the GFCS implementation plan in the past two years. WCRP is expected to contribute to implementation of these priorities in the near- to mid-term while identifying exciting new products and services based on its research coordination activities, especially through this working group and the work that its four major projects and CORDEX are supporting. The co-chairs proposed to establish a small task team from the working group members to develop a short scoping document that will identify such activities for review and deliberation by the entire working group. Some suggested names for this task team are the co-chairs, Anette, Simon, Filippo, David and other interested working group members who should express their interest to the co-chairs in short order.

ACTION: A task team of the working group will develop the scope of activities to be coordinated and promoted by WCRP for review and discussion by the entire working group. This should also encompass mechanisms for interactions with the decision-making community (see question on Item 1).

4. Mechanisms for carrying out WGRC business and the role of members; WGRC web site

The co-chairs requested a brief introduction to available resources and support by WCRP to the working group for carrying out its mandate. The WCRP Director reported on available resources to the working group for its annual meetings, interim telecons and task team(s) activities, reporting and communication. There was a brief discussion of the proposed working group web site and the co-chairs offered to help define the preliminary content of the site while Dr. Boscolo will help with its development. A decision will be made where to host

the web site, either in Geneva or in Paris after consulting the current CORDEX web host in Paris.

ACTION: Co-chairs will define the content of a web site and Dr. Boscolo will assist in developing the site to be hosted either in Geneva or Paris. Ideally a first version of the web site will be available by 25 December 2012.

5. Date, focus and venue for the first face-to-face meeting

The next topic of discussion was the date and venue for the first face-to-face meeting of the working group. Co-chairs suggested the next European Geophysical Union (EGU) assembly on 7-12 April 2013 in Vienna, Austria as one such opportunity. Some discussion on the exact date for the meeting resulted in an action to develop a doodle poll to identify the date with greatest availability of working group members.

ACTION: Develop and share a doodle poll to identify the date and venue for the first meeting of WG.

ACTION: WCRP secretariat to share a list of all upcoming and major WCRP activities during 2013 with the working group, and to explore availability of venue and logistics for the first meeting of the working group.

ACTION: Working group members are invited to identify/offer possible venues and options for future meetings.

6. Potential WGRC future activities

The next topic of discussion was the WCRP grand science challenges and how this working group can contribute to their implementation. Dr Filippo Giorgi, Co-Chair of CORDEX and a JSC member briefly described the WCRP six grand challenges, and elaborated on the one on “provision of regional climate information” that closely aligns with the mandate of this working group. He cited a position paper that he developed with his co-authors and invited the working group to help further develop the implementation plan for this grand challenge.

ACTION: WCRP secretariat will send a copy of the grand science challenge paper on regional climate to the working group members for their review and comment, including suggestion of topics and activities for implementation plan, to the co-chairs for consolidation and feedback to Filippo by mid-December.

The final topic of discussion was the next CORDEX International Conference to be held during first week of November 2013 in Brussels, Belgium under the co-sponsorship of European Commission (EC) and in partnership with the IPCC. The Conference will be in two segments: the first day will be devoted to reporting of the findings of the IPCC Working Group I in their Fifth Assessment during the morning of the first day, followed by a dialogue with stakeholders and decision makers under the auspices of the EC in the afternoon of the same day. The CORDEX science conference will follow during the subsequent three days, with active participation by the IPCC Working Group II and other WCRP partners. There was some limited discussion on the role of this working group during the first day, specifically in the stakeholder session. The WCRP Director suggested exploring this option through several working group members who are also serving on organizing committee of the conference.

ACTION: WCRP secretariat will send a copy of the draft conference announcement to the working group members for their information in advance of its public release.

Detailed discussions on other potential working group activities (publication of reports and workshops) will take place during the first working group meeting.

The teleconference closed with the co-chairs thanking all for their participation and welcoming additional comments, proposals, questions on working group activities from members by email.

Version 1: 28 November 2012

Version 2: 19 December 2012

Version 3: 20 January 2013

APPENDIX 5 – Terms of Reference

- To facilitate coordination of WCRP research activities relevant to the provision of regional climate information and related climate services.
- To integrate the regional user and decision maker context into the design and development of regional climate science through two-way communication and co-production activities.
- To oversee specific WCRP regional climate research initiatives including the COordinated Regional Downscaling EXperiment (CORDEX), and other activities as may be established in the future, either independently or in collaboration among the WCRP Projects or with other sister research programmes.
- To strengthen the role of regional climate science activity within the WCRP with research results communicated effectively to, or where possible designed in partnership with, climate service institutions. This may include preparation of web-based information, publication of reports, organization of targeted workshops, encouraging the building of research partnerships, etc. It should also be informed by and support research on climate science communication.
- To provide recommendations regarding the provision and communication of information for regional impact assessment, decision making and climate services as related to, for example, water, health, food and disaster risk reduction. This includes helping to ensure that observing networks are optimized, maintained over the long term and adapted to user needs.
- To facilitate, in co-operation with other relevant international organisations, the provision of good practice guidance for potential users on the identification, selection, processing, application and interpretation of regional climate information.
- To liaise, as appropriate, with other organisations or bodies developing scenarios of environmental and socioeconomic conditions, and to consider the consistency and plausibility of regional climate projections in the context of integrated scenario development.
- To foster communication between the WCRP and the GFCS and Future Earth, and to serve as the point of contact between the WCRP and regional climate information/service entities such as the Climate Services Partnership (CSP).
- To liaise as appropriate with other relevant international weather, oceanographic, climate and global change research programmes and communicate science priorities to relevant funding agencies, NGOs and development agencies.