

WCRP OPEN SCIENCE CONFERENCE

CLIMATE RESEARCH IN SERVICE TO SOCIETY

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conference2011.wcrp-climate.org



Questions Resulting from the Last Session of WCRP Conference

This list below contains 41 questions received in writing from the audience on the last day of the Open Science Conference and answered by a Panel of experts during that session. The questions have been grouped into the following nine themes/topics:

- Capacity Development including training / education / career development
- Proposals for themes to be covered by WCRP (at the next OSC or in general), scope of and approach to climate research
- Research funding
- Sound science foundation including comprehensive models, observations, datasets, verification
- “Actionable” and practically useful science and climate services
- Sustainability of Earth system
- Individual science questions and proposals
- General questions, comments on science ethics, data sharing principles, outreach and communication
- Questions related to the role of research in environmental/climate assessments

They will be used in defining the WCRP and its major Projects future strategy and implementation plan.

Capacity Development including training / education / career development

1) Tetsuzo Yasunari - comment

To enhance capacity building and involvement of developing countries, WCRP needs to collaborate with regional development programs/projects (e.g. START) and to promote regional climate study programs in collaboration with Sponsors and other ESSI activities under ICSU.

2) Capacity Building in the developing world has been mentioned several times. What are the concrete steps that WCRP can take that will result in the human resources returning to the developing countries once they are trained?

3) Swadhin Behera, JAMSTEC, Japan - comment

“Congratulations for organizing such a huge climate conference!” I felt while emphasizing the need for actionable information, we should not forget that it is dependent on the modes of climate variations. I wish some more emphasis were given to the understanding climate modes during the plenary sessions. Having said that, we have made reasonable progresses in predictions of climate modes such as ENSO, IOD, and monsoon. That means we already have some actionable information for development of regional climate application centres to translate predictions for the benefit of the society. These centres can be utilized as regional capacity building centers and should find ways to generate supporting funds at local levels

4) Bernard Bourles

"Capacity building" were (again) ones of the most used key words during this conference, and defined as a priority for the next years.

As working with African scientists from many years now, and living in Benin from several years too, I can provide some insights from my own experiment, having myself initiated in 2008 a regional Master 2 in Physical Oceanography and Applications in an UNESCO chair of the University of Cotonou (Benin; see my poster on the WCRP conference web site: C3_BOURLLES_W189B.pdf).

I am convinced that "capacity building" cannot be reduced to a few events as "summer schools" (even ok for PhD and young carrier scientists) or by only providing some PhD grants... Capacity building has to begin at an earlier step (eg Master level) and "on the field", i.e. in local/regional universities in order to be really efficient.

That means that we have to either initiate new formation/education programs in regional universities or to support/help already existing ones, in the fields relevant for the WCRP related sciences and activities/actions.

Furthermore, such formation programs have to be supported on the mid to long-term, ie time enough for developing countries scientists to be able to provide courses/formation programs by themselves! (for example in my case, we received funding by IRD during the 1st two years -2008 and 2009-, and by the oil company TOTAL from 2009 to 2012... and after 2012?

Stopping would be a disaster; this regional Master is now well known in countries around, and ocean related issues are numerous -eg, coastal environment and erosion, regional climate, fisheries, pollution, coastal upwelling ...- and need observations maintained by regional scientists, that I also initiated from 2007 along the coasts between Nigeria and Cote d'Ivoire). Other issue: once graduated, young scientists do need positions in their own countries in order to contribute i) to regional/international science and observation platforms, ii) to contribute to capacity building too!... Unfortunately, that is generally not the case (in African countries, priorities are not dedicated on mid/long term actions... but rather on very short term actions!).

In this way, I do believe that WCRP could be efficient to by two ways:

- Convincing international organizations (WMO, IOC/UNESCO, ICSU) and other potential sponsors to support such initiatives (for example, presently, the UNESCO Chair I work with does not receive any support by UNESCO/IOC and UNESCO is just a "label": is that normal ?).
- Reinforce communication and information actions on WCRP activities and on the crucial importance of climate and CC related issues for developing countries.

This could help local/regional funding organizations (eg ECOWAS, UEMOA, BOAD in West Africa... and African Union?) and/or governments to contribute to support capacity building and research in their own countries and universities.

Final remark. I attended to part of the meeting organized on Thursday afternoon between African scientists, headed by Fredrick Semazzi. He suggested the idea to create a WCRP African network... That could be great, but presently African scientists are no so numerous and often already members of other networks! Presently, it exists already several networks dedicated to science related to WCRP priorities (eg: WATERnet, AMMANet...), I do think it would be more relevant and efficient to make these groups to meet together and to establish close relations with WCRP! I hope these remarks could be useful and relevant for the WCRP future, as discussed during the last session of the conference, and do not hesitate if I can help in some ways. I feel personally very concerned by these capacity building issues (in addition to ocean observations with... PIRATA!).

5) What specific steps are you making to train future interdisciplinary researchers at postdoctoral level? Any future plans to integrate findings from both natural and socio-behavioural sciences?

6) Everyone agrees we need to train scientists who can translate traditional scientific information into actionable information. But can young scientist really build a career in this area, i.e. get publications, get known, get promoted, etc? All our career structures are disciplinary-based and I doubt that scientists working in this middle area will be able to be nurtured and rewarded within this system

7) James Wang, NOAA

I applaud your (WCRP's) special encouragement of students and early career scientists both at this conference and in your broader activities. But I think you could extend that encouragement to mid-career scientists too (> 5 years past PhD) and non-traditional career paths, e.g. scientists who have worked or would like to work outside of academia / pure research/ These include scientists who work for NGOs. You could extend outreach.

Proposals for themes to be covered by WCRP (at the next OSC or in general), scope of and approach to climate research

8) Geoengineering

One major part of any future climate services industry, it seems to me, is the role of geoengineering – its role in mitigating climate change and/or adapting to its effects, and the ethical and economic impacts of doing geoengineering. There seems to be little discussion on this topic, perhaps because of the distrusts we all have for such action. However, this is important for decision makers and the public – the feasibility, the effectiveness, and the impacts. Will there be a blog or online discussion group for the future of WCRP?

9) It has been stressed by many speakers that a holistic view of the climate system is needed in order to increase our understanding and predicting capability of it. However climate science, as with most sciences today, is highly specialized. How do you reconcile the need for a holistic view of climate with the sober reality that the field is highly specialized?

10) Andreas Schmittner -Boesch

I realize that WCRP is traditionally focused on physics, modeling and near future projections. However, the Earth System is broader and includes, e.g. biogeochemical cycles. Moreover, paleoclimate data hold a large amount of information e.g. on the reliability of the models. Will biogeochemical and paleoclimate communities be given more emphasis in the future WCRP?

11) Objectively, how will WCRP maintain its focus on the science and yet address the human dimensions aspects of the changing planet. In other words, - is there a thought on the new structure to approach trans-disciplinary science questions?

12) Where are paleo-climate perspectives to fit in the new structure? CLIVAR does not seem to want them?

13) Would it be possible to bring WCRP and IGBP closer together?

14) Catherine Rio ECS (LMD, France) to M. Kimoto

Will WCRP consider having an oral session about "dynamical components and physical parameterizations of climate models" in its next Open Science Conference?

15) In a warming climate, cryosphere is getting more interactive with other climate system components. How to promote interactions of research between cryosphere communities with other climate communities?

16) J.-L. Dufresne

The importance of model development has been highlighted in the summary. But the importance of promoting a better understanding of how climate works, with a better link between observation – modelling – theory, the importance of WCRP promoting assessments of specific scientific questions, or specific projects (like CMIP3 or CMIP5) has apparently been forgotten.

17) Preliminary analyses suggest that there is not a great deal of ('actionable') information coming from CMIP5 compared to CMIP3. Should we continue to invest in more climate

modeling results or start to focus on other research areas which might deliver better 'returns' for \$ spent?

18) Samuel Somot (ECS), CNRS

What/where will be the place in the future WCRP frame for disciplinary-based grand challenges? And what is the list of these science-based grand challenges? Another way of telling this is": What is the role of science-driven science in the future WCRP frame?

Research funding

19) Samuel Somot (ECS), CNRS

What are the new ideas/plans of WCRP to enhance the diffusion of the WCRP grand challenges or scientific open issues list to the funding agencies? National agency (eg French ANR), European Commission, sub-regional funding agencies...

20) Bart van den Hurk

How does WCRP stimulate national funding for monitoring & research in low times of economy?

22) How does WCRP advocate that there is appropriate balance between resourcing of expensive observations (satellites) and expensive supercomputing for modeling?

Sound science foundation including comprehensive models, observations, datasets, verification

23) There is a need for climate information to be underpinned by scientific understanding but also a need that models are evaluated and adapted in terms of more user-relevant variables. This needs better communication between observers, model developers, model evaluators, etc. weather information providers and climate scientists.

How can WCRP improve and encourage communications between all these different areas of our climate community?

24) Can WCRP develop a working group to ensure that robust and detailed descriptions of shortcomings, uncertainties, issues, etc. etc in reanalysis data are publically available along with the data. There seems to be a gap in a coordinated approach to this area.

25) I think it is important to emphasize not just the importance of bias corrections and intercomparisons but also to highlight the important role played by the multiple independent estimates of bias corrections and their analysis techniques for full understanding the uncertainties in observed data and analyses.

26) Stella Melo, Canada

Climate observation is challenging and depends on rather fragile systems not yet coordinated at a desirable way. Measurements need to be put in a quality control / assessment before they can be called climate observations. What would be the WCRP role towards achieving this "system"?

"Actionable" and practically useful science and climate services

27) Given the vast information presented here and calls for "actionable science", how will WCRP directly aim to understand, inform and impact nationwide and sub-nation governance and governments, and, more specifically, address institutional response and needs in addition to incorporating various social sciences disciplines in the future work?

28) Despite the theme of the Conference, the event appears biased towards the physical sciences aspects of climate research. While this is important, climate research is about people. Will WCRP be redirecting to provide more than actionable information and cross-cultural usable information?

Sustainability of Earth system

29) Do you plan to raise the problem of population growth in RS?

30) Family policy? Advising people not to have more than 1 child?

Individual science questions and proposals

31) Under real change in climate the future climate system may become a completely new system. How reliable, how well can we use present prediction to analyze subjects such as species distributions occurrence and extension?

32) Please compare the best models that reliably produce precipitation on a regional scale that only can inform decision makers and national resource specialists, but can also be used to educate the next generation of ID scholars/modellers, in order to make the world a better place. "Power lies in prediction but only if you use judicious simplification".

33) Seleste Saulo, Argentina:

Would it be possible to construct a data set that combines Atmosphere + Ocean + Population + Land Use + Production + Economy +++ ??? This would be largely improve our (atmos. sci.) understanding of how the systems interact or are related and we would be closer to provide "actionable" science

34) Summer monsoon is lifeline of Asian countries. In the past decade, aerosols over Asia are suggested to have impacts on monsoon in various ways, such as strengthening, weakening, with regional differences. How can WCRP address this important issue over Asia? And, perhaps, improve understanding the role of aerosols in the Asian monsoon?

General questions, comments on science ethics, data sharing principles, outreach and communication

35) How to avoid heavy carbon footprint travel/meeting burden while connecting with other programs (e.g. GLASS-GEWEX & IGBP-iLEAPS)?

36) There is a real need to NOT be summarizing policy of science results in programmatic language that does not reflect what we actually know or discuss. Make what we say useful.

37) The ethics issue in climate sciences needs to be more widely discussed – there are many opportunities for charlatans to take advantage of politicians that need to be seen as "doing something" to respond to the challenges of climate change. How can WCRP ensure that climate scientists will not be discredited?

38) The Model intercomparison projects have enabled scientists from developing countries to contribute ideas and methods to the analysis of climate model results. However, there are still issues in data sharing between countries. What can WCRP do to ensure better and more effective data sharing?

39) Andreas Schmittner -Boesch

Outreach efforts should be given more emphasis and more efforts should be directed to what e.g. a press conference highlighting the most important and most exciting outcomes

Questions related to environmental/climate assessments

40) Noel Baker, Arizona State University, USA

What plan is there to include the social scientist input in the human dimensions of the IPCC goals, such as adaptation?

41) In AR4, Himalaya glaciers retreat issue has some mistakes. What research effects have been taken to clarify this issue?