

WMAC report to JSC

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WMAC co-chairs:

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--WMAC coordinated the organization of the [2nd WCRP Summer School on Climate Model Development: Scale aware parameterization for representing sub-grid scale processes](#) - Cachoeira Paulista - SP, Brazil, 22 - 31 January, 2018

Follow up discussions with NCAR for 3rd WCRP Summer School on Climate Model Development for some time in 2019

--WMAC coordinated the award of the [WCRP/WWRP International Prize for Model Development 2017](#) - awarded to Dr Martin Vancoppenolle from Institut Pierre-Simon Laplace, France

Call for nominations for WCRP/WWRP International Prize for Model Development for 2018 will come out in July with a 1 October deadline

--WMAC organized and convened first-ever [Pan-WCRP Modelling Groups Meeting in conjunction with the 6th Session of the WCRP Modelling Advisory Council](#), UK Met Office, Exeter, United Kingdom, 9-13 October 2017

The main objective of the Pan-WCRP Modelling Groups Meeting and WMAC meeting in October 2017 was to review progress and challenges on modelling issues across the programme.

--WMAC proposes to make model development a more central activity within the WMO as a whole.

Form a Working Group on Model Development that spans all WWRP/GAW/WCRP (and maybe AIMES) model development activities?

However, model development is occurring in each of the modelling working groups for the specific applications of each working group, so maybe have each modelling working group have a designated model development activity that could be coordinated by the Model Development Working Group?

--Each of the WCRP modelling efforts formally affiliate with one of the three modelling working groups.

--Need for a meeting of the WGCM WIP with equivalent groups in the WWRP/GAW communities in 2019

Outcomes from Pan-WCRP Modelling Groups Meeting and WMAC meeting (cont.)

--**Future funding of CMIP activities**

e.g. Position paper by the relevant groups

--**CORDEX formally re-affiliate with WGCM**

--**Representation of the high-resolution and stretched grid global modelling communities**

At CORDEX conference on modelling the regional climate (planned for 2019)

--**WCRP-led assessment reports on key community issues**

e.g. Report on the climate models' ability to simulate key phenomena (e.g., ENSO, precipitation) and/or the use of multimodel ensembles.

--**Merge the CLIVAR DCVP with the DCP**

--**WGCM, CORDEX and HighResMIP form a closer relationship**

possibly through a taskforce – WGCM and CORDEX co-chairs to draw up a proposal

Outcomes from Pan-WCRP Modelling Groups Meeting and WMAC meeting (cont.)

--**Slow progress in reducing systematic model errors**

More coordinated activities are needed

--**Exascale computing**

related issues across WWRP/GAW/WCRP.

--**Very high-resolution (~ 1 km) climate modelling initiatives**

e.g. ExtremEarth European proposal that is under construction.

WCRP needs to stay abreast of such initiatives and support them

e.g. JSC invite a presentation by a representative of the very high resolution climate modelling community.

--**Joint meeting of the modelling working groups occur every 3 years**

--**General alarm regarding the reductions of funding of WCRP**

Outcomes from Pan-WCRP Modelling Groups Meeting and WMAC meeting (cont.)

--Review of results of the WMAC survey of modelling activities in WCRP:

There are **47 (67 counting CMIP) individual modelling projects in WCRP**; this large number came as a surprise to everyone involved

Many of them are not run by the modelling working groups, which WMAC aims to coordinate, but directly through the core projects and/or Grand Challenges. They are all led by identifiable individuals and groups and have community engagement

At minimum, WMAC or the JPS could maintain a **“WCRP Modelling Web Page”** where all current modeling projects are listed with short descriptions of status and chair/leader contact information.

However, given the central role that modelling plays in the WCRP objectives, **a more ambitious solution might be needed**

The question for the JSC is how it sees the overall coordination of modelling in WCRP, as modelling is a pervasive activity in the programme

WMAC telecon notes on the WCRP Strategic Plan:

--In O1 “Understanding the climate system”, **there should be a defined focus on improving models** to enable advancing understanding through modelling and analysis and use of observations.

--In O2 and O3, the use of “determining predictability” and “determining projectability” (whatever that is) seems to be more of an implementation goal, not a strategy. Rather, what is needed is the **“Capability to produce credible predictions on weekly to decadal timescales”, and the “Capability to produce credible projections on decadal to centennial timescales”**; the subheadings could then mention predictability as part of increasing understanding for making credible predictions, etc.

--In O4, again the words “generation and use” seem to put WCRP too far into the services arena; it would seem that **for the WCRP science, the focus should be on the “generation”, but not necessarily the “use”**; WCRP should rely on other international bodies for the “use” aspects, and this would be a main task for the new Governing Board to make sure that it happens.

--In-Sik Kang solicited **input on infrastructure needed for WCRP science that WMAC provided, but this material seems not to have fully made it into the strategic plan.** Indeed, infrastructure and standards for activities like CMIP are necessary requirement to move the science forward, and must be an important part of any strategy for WCRP.

On the WCRP review (with implications for implementation plan):

--Perhaps **re-define the function of JSC to a “Joint Coordination Committee” (JCC) that would absorb the current functionality of WMAC and WDAC.** The newly proposed “Governing Board” operating at a level above the current JSC would be tasked with strategic direction in the context of sponsors and funding considerations.

--The new JCC would operate as a **coordinating group** with operational responsibility for WCRP and consist of (at least) the **chairs and co-chairs of the Capability Themes and Cross-cutting Research Projects.**

--The **JCC would look after modelling and observational activities across WCRP** to look for connections and overlaps, and would connect modelling needs with observational activities and vice versa.

--Caveat: if such a JSC/JCC group would also be tasked with **evaluation of WCRP activities, there could be a perceived conflict of interest with the coordination activities** that would have to be managed

WMAC telecom notes on WCRP review (cont.)

--The proposed Working Group on Climate Model Development could be difficult to manage since model development for different applications would be an essential part of all Capability Themes. Perhaps **each Capability Theme could have a designated model development activity that would be coordinated by the newly re-purposed JCC**, thus not requiring a separate group to perform this function;

--it would be useful to clarify the **links between model development in WCRP with equivalent activities in WWRP and GAW**, probably through the JCC/JSC

--imperative I1 on ESMs in strategic plan could be another option with representatives from the Capability Themes/Overall Objectives. **The question for the JSC is how it sees the overall coordination of modelling in WCRP as modelling is a pervasive activity in the programme.**

--The proposed **“Working Group on Climate Information for Regions”** crosses perhaps **bit too far into the services aspect and away from the science**, the latter being the main strength and focus for WCRP; this raises the issue of where the boundary is for WCRP between science and services; it would seem that WCRP should be more about supplying the science for services, and not as much about the services themselves, although the boundary should be better defined, perhaps in the implementation plan.

