

**Report of the 20th session of the
WCRP Working Group on Subseasonal to
Interdecadal Prediction, jointly with the Decadal
Climate Prediction Project panel**

21 September 2018, NCAR, Boulder, USA



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Executive Summary

The WGSIP-20 session was held as a side meeting at the International Conferences on Subseasonal to Decadal Prediction, organized jointly by WCRP and WWRP, and hosted by NCAR in Boulder, USA on 17-21 September 2018. WGSIP met jointly with the DCPP panel on 21 September 2018. The main objectives for WGSIP were to consolidate planning for WGSIP's next full meeting (WGSIP-21) that will take place in Moscow, Russian Federation in May 2019, initiate planning for a new cycle of WGSIP projects to be finalized and approved at that meeting, and review updates to WGSIP's membership. The main objectives for the DCPP panel were to review the status of the DCPP experiments for CMIP6, plan DCPP-authored publications stemming from those experiments, and take stock of and formulate changes to the panel's current membership.

In addition, WGSIP and the DCPP panel were briefed on the status and contents of the developing WCRP Strategic Plan for 2019-2028, along with the accompanying Implementation Plan.



Opening session of the International Conferences on Subseasonal to Decadal Prediction

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WGSIP MEMBERS PRESENT: Bill Merryfield (Co-chair), Doug Smith (Co-chair), Asmerom Beraki, Laura Ferranti, Mikhail Tolstykh

DCPP PANEL MEMBERS PRESENT: Doug Smith (Co-chair), Wolfgang Müller (Co-chair), Gokhan Danabasoglu, Masahide Kimoto, Ben Kirtman, Jerry Meehl, Rym Msadek

GUEST EXPERTS: Magdalena Balmaseda (ECMWF), Louis-Philippe Caron (BSC), Richard Matear (CSIRO), Holger Pohlmann (MPI), Jon Robson (U. Reading)

JPS: Michel Rixen

1. Welcome, introductions, approval of the agenda

All present introduced themselves, and it was agreed to cover DCPD business first due to time constraints for some DCPD members.

2. Joint WGSIP/DCPP business

2.1 Review of WCRP Strategic and Implementation Plans

Michel Rixen presented slides describing the development of WCRP's new Strategic Plan for 2019-2028 in the context of changing science requirements and emerging scientific challenges facing WCRP and the recent co-sponsors review. The importance of bedrock science, links to services and policy, and a seamless approach with respect to time, space, earth-system modelling and links between research operations was emphasized. A new WCRP Working Group on Model Development was advocated as a means for addressing systematic errors, paving the way for next-generation Earth System Models, and planning for exascale computing.

Bill Merryfield highlighted content in the current draft of the Strategic Plan relating to subseasonal to decadal climate prediction, and described related discussions at JSC-39.

2.2 CMIP approach to climate prediction

Michel Rixen advocated for consideration of a CMIP-like approach to numerical experimentation underpinning subseasonal to decadal prediction research. Advantages of such an approach include the adoption of common standards for experimental protocols and model outputs, and a distributed approach for proposing and organizing specific experiments. The DCPD has played such a role in developing decadal prediction experiments for CMIP. In addition, engaging with CORDEX was suggested as a means of exploring the utility of dynamical downscaling for climate predictions, much as WGCM and CMIP have for climate simulations and projections.

3. DCPP business

3.1 DCPP CMIP6 experiments and associated publications

The role that the DCPP panel should take in publishing results from the DCPP CMIP6 experiments was discussed. It was noted that the first published evaluation of the CMIP5 decadal hindcasts came from outside of DCPP, and that for CMIP6 it would be preferable if members of the DCPP panel led such an initial evaluation. To enable this it was proposed that:

- hindcasts received before 31 May 2019 will be included in this evaluation
- data considered will consist of monthly mean 2m temperature, precipitation, and sea level pressure for the Component A hindcasts
- contributors will be allowed to provide this limited dataset either through the ESGF or by other means if needed to meet the submission deadline
- the DCPP will have exclusive access to this data for some short period (to be determined) while the initial analysis is performed and associated publication written

It was pointed out that full hindcasts sets cannot be run until future scenario (after 2018) ozone forcings become available. This is expected to occur in October 2018, and a poll of Component A contributors present indicated that most would be able to begin running their hindcasts soon afterward.

Development of a DCPP-led publication on Component C was also discussed. This is envisaged as a synthesis publication that will be formulated later in CMIP6, and will be led by DCPP panel members from CERFACS (C. Cassou and R. Msadek). It was noted that the Component C runs present some technical challenges, and that results from the H2020 PRIMAVERA project could provide an initial bases for Component C analyses.

3.2 DCPP membership

It was noted that the DCPP panel is due for updates to its membership, which has remained static for some time. Members who have requested to rotate off include George Boer who is retiring, Ben Kirtman, and Paco Doblado Reyes and Masa Kimoto, both of whom have asked to be replaced by investigators from their home institutions (BSC and MRI respectively). In addition, it was decided to check with other DCPP panel members who were not at this meeting whether they wish to remain on the panel.

Doug Smith is now a WGSIP co-chair and will therefore be stepping down as co-chair of the DCPP panel, while remaining on the panel as a regular member.

3.3 Other DCPP business

- It was noted that the CLIVAR Decadal Climate Variability and Predictability (DCVP) Working Group will conclude its activities in 2020, having reached the end of its mandate.

- Plans were discussed for coordinated decadal forecasts of opportunity, incorporating volcanic forcing in the event of a major volcanic eruption. This initiative is being coordinated by W. Müller in collaboration with the SSiRC component of SPARC.
- Recent discussions regarding the potential role of decadal predictions in the UNFCCC Global Stocktake, as proposed for example by the GC-NCTP, were summarized.
- The promising application of earth system models to decadal prediction of biogeochemical variables was discussed, and support was expressed that this emerging area be represented by one or more incoming DCP panel members.

4. WGSIP business

4.1 Planning for WGSIP-21 and associated activities

Planning for the next full meeting of WGSIP, to be held in spring 2019 in Moscow, was discussed. This meeting will be held in conjunction with two interrelated events: (i) an International Young Scientists School on climate prediction, organized in association with ICTP, and (ii) Conference on Computational Information Technologies for Environmental Sciences (CITES-2019), which will include presentations by students who attended the School. WGSIP members are being invited to contribute to lectures and laboratory exercises at the School (much as for the school held in conjunction with WGSIP-18 in Dakar, Senegal in 2016), and to give scientific presentations at CITES-2019.

Based on the timing of other events and responses to a doodle poll of WGSIP members, it was decided that

- WGSIP-21 will be held May 29-31, 2019
- the International Young Scientists School will be held May 27-31
- CITES-2019 will be held during the following week, June 3-6

This information will be conveyed in an email to WGSIP members, reiterating the invitation to contribute to the School and CITES-2019, and bringing attention to the visa application process which must begin soon.

A major objective of WGSIP-21 will be to formulate a new cycle of WGSIP-led projects addressing priority research areas identified by WGSIP members in consultation with the climate prediction research and operational communities. A teleconference with WGSIP members will be held in early 2019 to discuss the initiation of this process and other action items.

4.2 WGSIP membership

The WCRP JSC recently approved four nominations for new members beginning in 2019: Lauriane Batté (Météo-France), Deborah Hudson (Australian Bureau of Meteorology), June-Yi Lee (Pusan University), and Yuhei Takaya (JMA/MRI). They will replace P. Gentine, J.-H. Jeong, A. Robertson and T. Yasuda, who are rotating off.

It was noted that this was the first year that WCRP solicited self-nominations for WGSIP and other working groups. Many excellent self-nominations were received, and multiple membership nominations submitted to the JSC were drawn from them.

APPENDIX A – ACTION LIST

DCPP

1. Notify contributors to the DCPP CMIP6 experiments that systems providing hindcasts of 2m temperature, precipitation and sea level pressure (through the ESGF or otherwise) before 1 June 2019 will be represented in the DCPP's publication describing an initial evaluation of Component A decadal hindcasts.
2. Recruit new DCPP panel members, including from BSC and MRI, to replace members rotating off.
3. Identify a new co-chair to replace Doug Smith who is now WGSIP co-chair.
4. Contact DCPP panel members who were not at this meeting to check whether they wish to remain on the panel.

WGSIP

1. Circulate email to WGSIP members notifying them of the chosen dates for WGSIP-21 and associated events, and reiterating a previous invitation to contribute to the International Young Scientists School and CITES-2019 conference.
2. Hold a teleconference with WGSIP membership in early 2019 to discuss development of a short list for a new cycle of WGSIP-led projects and how best to obtain community inputs, as well as other actions in the lead up to WGSIP-21.
3. Following the teleconference, canvas the research and operational communities for inputs regarding new WGSIP-led or other community projects that could target knowledge gaps identified through this process.

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