

The WCRP Modelling
Advisory Council
(WMAC)
Update

WMAC mission

- Established in 2011 by WCRP Joint Steering Group
- The Mission of WMAC is to coordinate high-level aspects of modelling across WCRP, ensuring cooperation with main WCRP partners such as [World Weather Research Programme \(WWRP\)](#), and acting as a single entry point for all WCRP modelling activities.
- There are three modelling and prediction groups:
 - the Working Group on Coupled Modelling (WGCM);
 - the Working Group on Seasonal to Interannual Prediction (WGSIP);
 - the Working Group on Numerical Experimentation (WGNE)

WMAC Members

Christian Jakob	Co-Chair and WGNE Rep.	Monash Uni., AUSTRALIA
Gerald Meehl	Co-Chair	NCAR, USA
Sandrine Bony	WGCM Rep.	LMD/IPSL, FRANCE
Peter Cox	IGBP Rep.	Uni. Exeter, UK
Gokhan Danabasoglu	CLIVAR Rep.	NCAR, USA
Francisco Doblas-Reyes	WGSIP Rep.	Catalan Institute of Research, SPAIN
Greg Flato	CIIC Rep. (ad-interim)	Environment Canada, CANADA
William Gutowski	CORDEX Rep.	Iowa State University, USA
Masahide Kimoto		Uni. Tokyo, JAPAN
Judith Perlwitz	SPARC Rep.	NOAA, USA
Joseph Santanello	GEWEX Rep.	NASA-GSFC, USA
Jean-Noel Thepaut	WDAC Rep.	ECMWF, UK

Role of WMAC

Our interpretation

- Provide the WCRP community with a go-to point for modelling beyond individual Projects, WGs and GCs
- Discuss and pursue issues that cut across several or all modelling groups
- Identify topical science connections across the WGs to leverage communication and scientific synergies
- Advise the JSC, Core projects and GCs on modelling issues

Joint WCRP/WWRP Model Development Prize

- Established and now awarded twice -
- After first round we revised the selection criteria, which simplified the selection process.
- ~10 Nominees, 3 judges, tough calls
- Winner 2015: Catherine Rio (LMD now Meteo-France) for her work on cumulus parametrization
- Call for nominations for 2016 will come out in July with a 1st October deadline

Model development summer school

- First school took place 15-26 June 2015 in Hamburg and was a huge success - Thank you MPI
- Topic: Atmospheric Moist Processes
- 240 applicants for 40 places
- Most lectures available online
- Next school in 2017 at CPTEC, Sao Paulo, Brazil -> Parametrisation in the grey-zone era
- Concern around volunteers -> need improved engagement with the modelling centres (see later points also)

Joint Modelling WG meeting in 2017

- UK MetOffice, October 2017
- Bring all annual meetings of the WCRP Modelling activities into one location
- Facilitate cross-talk in support of developing a WCRP modelling strategy for the next 5-10 years

Decadal Climate Focus

- WMAC supports the proposal to increase the visibility of decadal climate variability and its prediction in the WCRP.
- We propose to more closely coordinate the three main activities in this space (DCPP, DCVP, DP-GC) by establishing a single joint steering group.
- Several options of doing so were discussed: 1) New Working Group at WGNE/WGSIP/WGCM level or 2) Panel within a slightly revised WGSIP
- WMAC favours Option 2.

Comments on the WCRP strategy development

- Comments are based on the outline that has been circulated to the JSC
- Modelling is not very prominent
- Would appreciate better communication about the process on how the strategy is being developed
- What is our job going to be over the next 12 months contributing to a new strategic plan?

Working Group Reports

- The reports of the WGNE, WGCM and WGSIP were moved into the WMAC agenda this year.
- Is the sign of a waning interest in modelling?
- It severely impacted our time for deliberations and we need to address this for next year.
- Would like to return to a format similar to the JSC 2015 (WGs report directly to JSC, WMAC meets near the end of the meeting for 0.5 days and then reports back).

Working Group Reports

- WGNE highlights
 - Focus on atmospheric model improvements
 - MJO Task-Force: Large model assessment effort
 - Drag Project -> link to other WCRP activities on better understanding of momentum
 - Systematic Errors Workshop in June 2017 in Montreal - Please get involved!

Working Group Reports

- WGCM highlights
 - CMIP - you may have heard about it
 - Clouds Grand Challenge - you may have heard about it
 - Next WGCM meeting in Princeton, together with Model Hierarchies Workshop, in Oct/Nov 2016
 - Propose more regular workshops on: Model Hierarchies, Tuning, Modeling Infrastructure

Working Group Reports

- WGSIP highlights
 - New project on initial shock and drift - Workshop in May
 - New project on impact of snow initialisation
 - New project on teleconnections
 - Involvement in several WMO operational activities - WGSIP requests access by the climate prediction research community to key products stored by the WMO LC-LRFMME

Review the engagement with the modelling centres

- Model development and prediction is largely happening in modelling centres with moderate contributions from Academia
- For the WCRP to be useful to model development, it needs to be useful to those Centres
- Centre Engagement happens largely through the Working Groups
- We propose that WMAC solicits input from the modelling centres on expectations from WCRP to feed into the strategy development.

Comments on the Projects and Grand Challenges

- Great activities in all Projects and GCs
- All seem to heavily rely on models
- Activities related to model improvement vary strongly
- WMAC has some concerns around achievability of some GC and project goals without model improvement
- Each GC and project should at least consider an “outreach” activity to the relevant model development communities (e.g. workshop).

Comments on model evaluation and development

- Propose a series of grass-roots WCRP assessment reports on model performance, e.g. a report on “ENSO in models”
- Connect efforts on addressing coupled model errors in different spheres better
 - e.g., Upwelling regions, Southern Ocean
- Create fora for model developers to discuss common issues

An idea to focus our minds

- Establish a cross-WCRP initiative on the IMPROVEMENT of the simulation of precipitation in weather and climate models.
- Should include biases, variability, extremes, coupling to dynamical systems, snow,
- Could start with an assessment report.
- Please lets not worry about which acronym plays which role, but lets focus on getting it done!

Actions for JSC

- Decide on decadal focus group
- Decide on CORDEX home
- Endorse (or not) Joint WG meeting for 2017
- Help WGSIP - WMO operations connection
- Clarify the role of WGs in WCRP strategy development