WCRP Coupled Model Intercomparison Project Phase 5 (CMIP5) Survey

Prepared by the CMIP Panel and Co-Chairs of the Working Group of Coupled Modelling (WGCM)

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Background: As most of the simulations for CMIP5 have been completed, and their analysis is in full swing it seems timely to ask, while experiences are still fresh, as to what went well, what didn't, and what gaps in the science are emerging. In particular, are gaps emerging that could be filled or bridged by a coordinated set of model experiments, and thus should be considered as a component of CMIP6. With an eye on CMIP6, a workshop "Next generation climate change experiments needed to advance knowledge and for assessment of CMIP6" will be held early August 2013 in Aspen, USA. This workshop will be the first, of what we hope will be a series of workshops and meetings, to assess the accomplishments and outstanding issues with the CMIP5 process and will help inform the design of CMIP6.

Goal of this Survey: To learn from those most active in CMIP5 what went well and what didn't and to provide input for the Aspen meeting and future CMIP6 planning workshops.

Outcome: Synthesis and dissemination of the survey and consideration of the responses in the planning of CMIP6.

Addressees: This survey is being sent to representatives of the climate community (e.g., from CMIP5 model group / WCRP working group / WGCM-Endorsed Community Coordinated Project / Model Intercomparison Project / Integrated Assessment Model group / related IGBP group or activity / ESG Federation / Climate Service Center)

*Please return this survey by **26 July 2013** (with Subject heading: CMIP5 Survey) to*

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(future and past CMIP Panel Chairs)

Table 1. WCRP Coupled Model Intercomparison Project Phase 5 (CMIP5) Survey. For each of the items below, please **list your key points in bullet form in the right column and add further explanation below the bullets if needed. In each case please indicate whether this is a general comment (GC) or refers specifically to either long-term (LT) or short-term experiments (ST).** Do not feel obliged to address every item; any input you provide will be helpful.

1. Name(s)	
Institution	
Country	
Email Address(es)	
2. How have you interfaced with CMIP5 model output? (please select all that apply)	User of CMIP5 data / responsible for model runs / preparing model output / managing an ESGF data node
3. Which group(s) are you affiliated with or representing? (please specify the actual model, project, or group name(s) and clearly indicate whether your responses represent a personal opinion or a consensus institutional/group view)	None / CMIP5 model group / WCRP working group / WGCM-Endorsed Community Coordinated Project / Model Intercomparison Project / Integrated Assessment Model group / related IGBP group or activity / ESG Federation / Climate Service Center / Other (specify)
4. Which families of experiments within CMIP5 did you contribute or access? (please select all that apply)	Long-term, decadal, carbon cycle (ESM), CFMIP, PMIP
5. CMIP5 experiment design (see Taylor et al., BAMS, 2012) (i) General scientific focus like balance between simulations primarily focused on projections versus those designed more for advancing understanding (ii) Multi-tier approach (iii) Decadal/long-term/atmosphere-only options (iv) Inclusion of different MIPs (e.g., PMIP, CFMIP) in the CMIP5 protocol (v) Usefulness of the "mandatory" core simulations (vi) Missing experiments (vii) Overall number of simulations (viii) Adequacy of experiment descriptions (ix) Others	INDICATE WHAT WENT WELL INDICATE WHAT WENT NOT SO WELL INDICATE SUGGESTIONS FOR IMPROVEMENTS / FOCUS FOR CMIP6
6. Emissions / Forcing for historical and RCP experiments (i) Merging past / future (ii) Attribution and documentation of forcings (iii) Others	INDICATE WHAT WENT WELL INDICATE WHAT WENT NOT SO WELL INDICATE SUGGESTIONS FOR IMPROVEMENTS / FOCUS FOR CMIP6
7. Standard output (i) Metadata (ii) Frequency (iii) Spatial grids (iv) Overall amount of collected data (v) Others	INDICATE WHAT WENT WELL INDICATE WHAT WENT NOT SO WELL INDICATE SUGGESTIONS FOR IMPROVEMENTS / FOCUS FOR CMIP6
8. Specially prepared output (i) Usefulness of cloud simulator diagnostics (ii) Additional online diagnostics required (iii) Others	INDICATE WHAT WENT WELL INDICATE WHAT WENT NOT SO WELL INDICATE SUGGESTIONS FOR IMPROVEMENTS / FOCUS FOR CMIP6

9. Model and experiment documentation (i) METAFOR questionnaire (ii) ES-DOC (iii) Others	INDICATE WHAT WENT WELL
	INDICATE WHAT WENT NOT SO WELL
	INDICATE SUGGESTIONS FOR IMPROVEMENTS / FOCUS FOR CMIP6
10. Data search and support (i) CMIP5 website design and content (ii) ESGF data browser, search, and scripts (iii) ESGF data node issues (iv) Access to model and experiment. documentation (ES-DOC tools) (v) Others	INDICATE WHAT WENT WELL
	INDICATE WHAT WENT NOT SO WELL
	INDICATE SUGGESTIONS FOR IMPROVEMENTS / FOCUS FOR CMIP6
11. Timeline (i) Freezing of experiment design specifications (ii) Forcing for historical and scenario experiments (iii) Standard output list and metadata (iv) Model output (v) Model and experiment documentation (vi) Others	INDICATE WHAT WENT WELL
	INDICATE WHAT WENT NOT SO WELL
	INDICATE SUGGESTIONS FOR IMPROVEMENTS / FOCUS FOR CMIP6
12. Identify key science gaps that should be addressed by CMIP6 (refer to papers where possible, attach slides for a "Lessons from CMIP5"" presentation if wanted)	
13. What else is missing? (i) Measures of model quality (ii) Measures of data and documentation quality (iii) Better access to observations (iv) Repository for diagnostic codes (v) Others?	
14. Additional comments	