



CNRM UMR 3589

Ce qu'on sait (et qu'on ne sait pas) de CMIP7

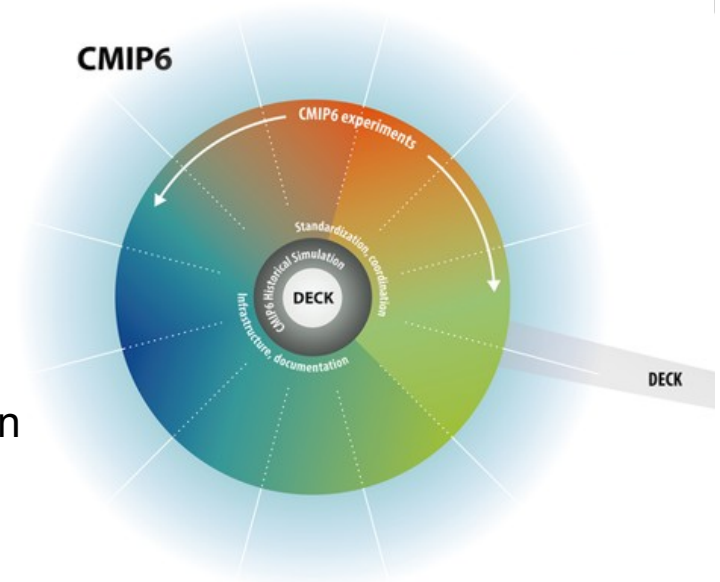
D. Salas y Mélia, CNRM

Retraite de l'IPSL, 17/11/2022

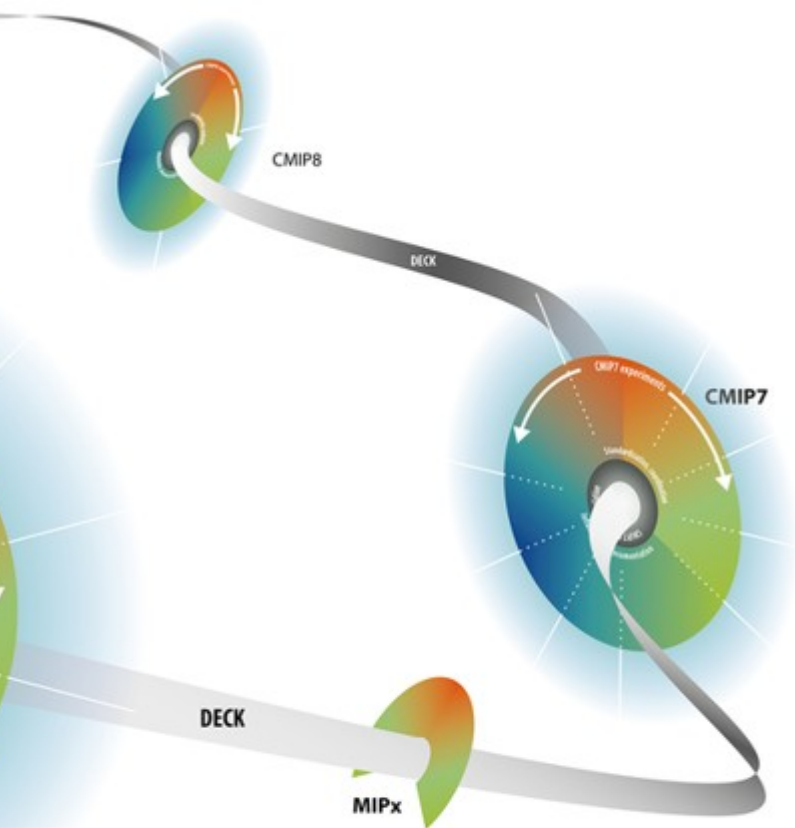
Résultats du sondage pour débriefer CMIP6 et préparer CMIP7 (Eleanor O'Rourke, CMIP IPO)

► CMIP6 :

- 318 respondents. 48% Europe, 24% North America
- Positive or very positive answers, except ~35% dissatisfied (or very) with the timing vs IPCC AR6
- 87% satisfied/very satisfied with the DECK formulation, 78% with variables included as core variables
- MIP experiments design :+)
- No significant differences in answers from users/analysts vs modelling groups/developers/people doing the simulations !
- Documentation :
 - about 50% were able to find the doc, 35% 'sometimes'
 - request for a better connection between both the errata and data citation services and ESGF
- Data Request :
 - appreciation of the effort in coordinating it, but too complex, lengthy, difficult to interpret, too many versions.
 - some felt there were too many core or Tier 1 variables, with associated cost to modelling centres.
- Forcing :
 - the delay in forcing data provision was the most cited complaint in the survey.
 - the ScenarioMIP forcing delays were found to be particularly problematic against the IPCC AR6 dateline



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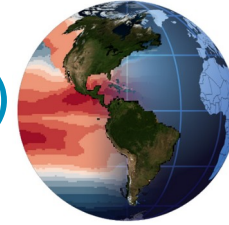


- ▶ Looking forwards :
 - Main points :
 - wish for little structural changes from CMIP6 but evolution
 - retain alignment to IPCC in some form
 - greater focus on climate impacts & adaptation relevant experiments
 - Involve more young scientists and from the global south
 - DECK, Historical and ScenarioMIP to be operationalized (remain aligned with IPCC AR), with appropriate funding & support for critical elements (e.g. forcing data)
 - Specialist MIPs :
 - could be decoupled from the IPCC timeline
 - critical review of MIPs in terms of science & policy
 - more collaboration / coordination between MIPs
 - Forcing :
 - consensus on centralizing of the management of forcing data
 - forcings should be regularly updated
 - issue of missing forcing data (e.g. methane emissions) : more work is needed !

CMIP7 : un calendrier incertain

- ▶ IPCC :
 - New IPCC bureau to be elected in July 2023
 - New IPCC cycle workplan early 2024
 - AR7-WG1 in time for next global stocktake (due 2028) ?
- ▶ Implications for CMIP7 (if AR7WG1 in 2028) :
 - Closure date for CMIP7 simulations relevant to the IPCC by early 2027
 - Not possible to organise a CMIP7 (as comprehensive as CMIP6) with such a closure date
- ▶ Proposed approach / questions :
 - Determination of set of 'core' MIPs approved by WGCM (MIPs that serve the IPCC reports, feed climate services, insurance companies and other sectors)
 - Reflect on how will satellite MIPs utilise the Data Request or align to core experiment when separated in time from DECK and core MIPs
 - Potential difficulty for MIPs in securing data storage as data centers struggle to determine CMIP7 total requirement
 - Greater difficulty in capturing total carbon impact ?
 - Which level of support offered to MIP activities – CMIP Panel advice, WIP infrastructure support, data request, IPO support

En attendant : une extension de CMIP6 (CMIP6+)



CMIP6+
Coupled Model Intercomparison Project next phase

- ▶ CMIP6+ :
 - Little changes from CMIP6, allowing modelling groups to focus on science
 - could be at least a DECK (new forcings, old model)
 - would allow a direct comparison between « official CMIP6 » (old model config & old forcing) and CMIP7, with next-generation models and new forcings
 - other science-focused MIPs (e.g. the DAMIP follow-on LESFMIP – single forcing) could also occur concurrently scratching ongoing science needs rather than waiting for CMIP7 to start
 - New MIPs in case of science opportunities (such as ZECMIP, CovidMIP)
 - Possibility to run CMIP6+ experiments anytime, when a new forcing is available

Merci de votre attention !

