

GFDL views on CMIP6

Filtered strongly my me

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Background

- Presented much of Aspen CMIP5 survey talk and CMIP6 proposals (an options)
- In Q&A time, a lot of focus on CMIP-IPCC relationship
- *My* summary/thoughts presented here

CMIP – IPCC relationship

- On physical climate side, what is new? Why such a grand, labor intensive MIP for so little gain?
- Acknowledgement of biogeochemistry/ecology/ short lived species frontiers – **But** this was viewed both as positive (helps the science) and negative (hinder communication to public – mixed messages)
 - i.e Are new aerosol results trustworthy?; Are new biogeochemical results trustworthy? ... given the large amount of public exposure

CMIP6

- Priority of diagnostic and evaluation (“core”) runs inside core – an issue?
- Given long time scale spin-up issues with AOGCMs and especially ESMs (1000 yrs+) – What is a realistic time scale for developing new climate models? Variants much easier....
- How to manage MIP runs? Notion that each MIP will want several runs => 2 tiers again?
 - Each MIP allowed 1 run in tier 1, rest in tier 2?

CMIP6

- Role of AR5 conclusions and identified uncertainties in prioritizing MIP runs (in general) and which get into tier 1
- Balance between idealized and realistic runs
 - Acknowledge that this balance is in the “eye of the beholder”
 - Been improving over CMIPs

CMIP6

- Strongly support many more idealized runs for understanding
 - Aerosol responses (importance of a prescribed concentration run to determine aerosol impact)
 - biogeochemistry responses (Land use – important but very difficult because of wide range of implementation differences)
- USGCRP may want to have say in what future scenarios are run at GFDL (probably NCAR too)
 - Our response to their direction (if any) is uncertain....

CMIP6 Data and details

- Experiments/variables need defined early in process
 - Particularly important with distributed control in CMIP6
 - MIP 1 wants vbls (A-M) and MIP 2 wants vbls (D-Z)
 - Somebody needs to develop a merged list
 - It may be us and depends on what we plan to run
- Data serving needs to work well from start of process
- DOI-like system needs set up ASAP
 - E.g. NOAA discussing plans NOW
 - Once institutions settle on methods, it may be hard to merge various methods....

CMIP6 Data and details

- What is the limit to how much data we can be passing around over the internet?
- Are any of the server side analysis plans/proposals realistic?
- Do the answers to the above questions limit the data to be archived in CMIP6?

My Summary of summary

- A certain amount of CMIP/IPCC burnout exists
 - Many questions toward administrators about ties of funding to our participation – What happens if ...
- A large amount of excitement about confronting the new horizons of climate research
- Obvious tension between research and CMIP which is seen as mainly a community service.
- GFDL has all ready decided to reduce the impact of IPCC time lines on its model development cycle