GFDL views on CMIP6 ....
Filtered strongly my me

Ronald J Stouffer
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