## **Overview**

- We are done (all doi references are ongoing) ... with the easy part.
- In all 122 experiments with three model versions:
  - MPI-ESM-LR a base low (T63L47/GR15 model) which did all experiments
  - MPI-ESM-MR (L95TP04) as duplicate experiments.
  - MPI-ESM-P an fixed vegetation version of the LR model for PMIP.
- We do not believe that there is sufficient physical understanding to merit including aerosol indirect effects, so these were assumed (in the spirit of Smagorinsky) to be zero.
- We focused our creativity on the incorporation of interactive vegetation, a carbon cycle, a high-top and modest changes to physics.
- We are pleased with the extent to which our model is being used by the community, and the feedback we are getting from this use.
- We thought CMIP was great and thank WGCM for their efforts in designing such a rich and multifaceted project.



## **Difficulties**

- Mostly self inflicted (i.e., overly optimistic about scaling (IO) led to an inability to get a high-resolution coupled model performing satisfactorily).
- Some of the boundary data specification came late.
- CMOR was not easy.
- Documentation demands made CMOR seem easier.
- We noticed the hiccups with data provision.



## **Thoughts**

- CMIP is very valuable to our institute, and the time frame is about right.\*
- We have no problems with decoupling model development from the CMIP schedule.
- Many old biases remain, but these are better addressed by adjusting the experimental protocol rather than the timeline.
- The openness of WGCM in incorporating the priorities of the modeling centers made CMIP especially valuable for us. Our interests being served, foremost, by the decadal prediction and CFMIP runs, but also PMIP and GEOMIP.
- Using one model across the MIPs is valuable.
- CMIP6 should maintain continuity with CMIP5.
- Development of scenarios might benefit from further thought.
- Connecting to international assessments allows us to make a case for resources and support that would not otherwise be available.

"I don't need more time, I need a deadline" ... Duke Ellington

