GFDL Thoughts on CMIP6 MIPs

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NOTE: Response given BEFORE having
seen the MIPs proposals

CMIP6 Resource estimates

- New computer likely to provide similar power as was available in CMIP5

- Model resolution CMIP5
  - CM3 (hitop, aerosol-cloud): 2 deg – 48 level atm, 1 deg – 50 level ocn
  - ESMs (closed carbon cycle): 2 deg – 24 level atm, 1 deg – 50 level ocn

- Model resolution CMIP6 (estimate)
  - AOGCM: ½ deg 48 level atm, ¼ deg 75 level ocn
  - ESM: 1 deg 48 level atm; 1 deg 75 level ocn

CMIP6 Resource estimates

- Data
  - CMIP5 – about 122tb
  - CMIP6 – about 100 tb
    - Depends on resources, variable lists, interest !
- Estimates likely to be wrong...and are dependent on many unknowns
  - New machine
  - CMIP6 MIP exps and variable lists

General Issues

- Do CMIP6-endorsed MIPs satisfy the entry criterion of "at least two centers have run the experiment"?

- Where are the radiative forcings estimates, any attempt at standardization? Computing radiative forcing in a reliable fashion is gap in CMIP5.

- Would like discussion of the costs involved in participating, based upon the experience of people who did this in CMIP5.
  - MIP requests need to take into account computing costs
  - Who at GFDL is responsible for seeing if the whole thing fits into resource constraints? How would this be done in new format for CMIP6, since MIPs can be added at any time.

Specific MIPs comments

- AEROCOM – Viashali chem, Paul G - dust
- C4MIP: John Dunne
- CFMIP: Chris Golaz, Ming Zhou, Yi Ming
- DAMIP: Isaac Held: we may do these runs
- DCPP: Rym Myzak is on committee
- FAFMIP: Steve Griffies is a sponsor
- GDDEX: Isaac Held: ?

Specific MIPs comments

- GeoMIP: no interest

- GMMIP: ?

- HiResMIP: - Isaac Held

- ISMIP6: Bob Hallberg

- JCOMM: ?

- LS3MIP: Milly?, Findell?

Specific MIPs comments

- LUCID/LUMIP: Elena Shevliakova
- nonlinMIP: no information
- OCMIP: Dunne.
- PDRIP: Findell?
- PMIP: rjs thinks it's a good idea –
- RFMIP: Ramaswamy is in the loop designing experiments

Specific MIPs comments

- ScenarioMIP: TBD – many questions

- ScensMIP: ?

- VolMIP: David Paynter

Other MIPs

- CORE: community pressure exists, but no volunteers –
- CORDEX: Keith Dixon statistical downscaling part, Isaac Held high resolution
- DynVar: may get folded into CCMI –
- EMDI – no information, interest
- GABLS: Kirsten Findell, Chris Golaz
- MJO: - Some interest
- Obs4MIPS: lots of interest
- SolMIP: Merged into SPARC MIPS?
- HTAP: Larry Horrowitz
- YOTC: Ming Zhou and Chris Golaz