

Paleo CSL request

Due mid-August

background

- Computing resources to support model development and science experiments in support of community priorities.
- Of interest to more than one PI
- Done by community members willing to post-process and distribute on ESG
- Complement other efforts
- Current CSL total (across CESM) in support of production plus development is 141M core hours for 18 months, of which paleo received 8.3 M (+8M) for Last Millennium community simulation

Background (cont)

- Can propose funded projects, but can not “double dip”.
- 2 year allocation, with clear 1 year goals.
- Prioritize experiments into A/B/C.
- Best motivated by interesting science priorities, with an eye toward CMIP6.

Some ideas

- Last Millennium (identifying the drivers of change, forced versus internal variability)
 - Additional forcing choices (volcanic, solar, land use)
 - Additional ensemble members (including short term event specific)
- 8.2 ka event (reproducing climate response to well documented sudden NA ocean freshening)
 - Use high resolution model

Ideas (cont)

- Glacial cycle experiments using idealized simulations. (Interpret forced response from proxies through pattern scaling, test model sensitivities). Would require ~10 500 year coupled model integrations.
 - GHG (~500 year coupled model integrations)
 - Obliquity
 - Precession
 - Ice Sheets

ideas

- Cretaceous (whether observed changes are caused by CO₂ or changes in geography.)
 - 4 geometries experiments exist
 - Interest in various levels of CO₂
- iTraCE 21 ka to 0 ka. (improve model-data comparison by including isotopes into transient simulations of the deglaciation)
 - Could focus on 21 to 10ka (10M)
 - NCAR strategic capability