Modeling Sea Level Changes

Summary from Last Meeting

Susan Bates
CESM2 Sea Level Scientific Paper

• Highlight improvements in CESM2 relative to CESM1 – analyze the pieces of SLR possible in CESM2
• Multi-WG team: ocean, land, land ice, atmosphere,...
• Different from CISM (J. Lenaerts) paper – CISM will concentrate on other component changes (river discharge, land hydrology, ...)

• Topics
  • Ocean thermal expansion (Susan Bates, Aixue Hu, ?)
  • Ocean dynamics (Susan Bates, Aixue Hu, ?)
  • Land ice dynamics (Bill Lipscomb, ?)
  • Land ice surface mass balance (Jan Lenaerts, ?)
  • Land (?)
  • Atmosphere (?)
Sea Level Diagnostics

- A tangible to provide to the community
- Suggestion to add to the CVDP
- Only provide diagnostics on the dynamic part, though steric sea level code exists
- Version controlled
- Could reproduce figures from paper
- Need documentation
- Would they carry over after MOM incorporated?
Processes to Pursue

• Geoid/solid earth changes
• Tides
• Self attraction
• Coastlines that can move – for use in paleo runs
• Some processes will come in with MOM6