WACCM for CESM2: Joint Issues

A. Gettelman, L. M. Polvani, M. Mills
+ “WACCM Team”
Pending approval by the SSC

Probably need to start Control and 20th century by sept
Proposed WACCM Configurations

- **WACCM6 L70, 1°, FV**
  - Specified and full chemistry

- **WACCM6 L110, 1°, FV**
  - Matches a L64 CAM
  - Specified and full chemistry

- **WACCM6 L110, 2°, FV**
  - Specified and Full Chemistry (Comp set only)

- **WACCM-X 2.0**
  - Includes description of ionosphere
Current developments for CESM2

• Pace CAM6 Physics
  – CCMI chemistry (Done)
  – WACCM6 with CAM6 physics: functional (Done)
  – WACCM6 climatology: Temp, RH, SAD_{ice}, O_3
  – Adjustments to Gravity Waves?
  – Tune GWD for T, QBO, SSW, SAO, Tides

• Forcing data sets
  – Volcanic forcing (Neely, Schmidt database)
  – Solar forcing (new specification)
  – Chemical forcing from WACCM
Timing

• Finish WACCM mods to CAM physics (1-2 months)
• Will need to discuss any changes to Momentum
• Start tuning GWD for Temps and SSWs by April
  – Aiming for June-Sept finish
  – 90% tuning done with current GW schemes
  – Tune in WACCM-SC (beginning)
Questions for other WGss...

- For ChemWG: Forcing is 3D or daily zonal means?
- What are plans for surface stress/wave drag?
  - CESM co-chair level group working on this
  - Should not do any more coupled tuning until we decide.
- Are recommended/supported configurations consistent with rest of CESM? (1°, FV, 70L)
- When does WACCM need to be ready?
  - How are we spinning up an ocean?
  - Careful on configurations between CAM/WACCM
  - What are we running (multiple ensembles)