WACCM for CESM2: Joint Issues

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CESM2 revised timeline

- Feb 2016: WG meetings
- Mar. 1 2016: All WGs define -final additions -timeline
- June 2016: CESM2.0 Sessions at Breckenridge
- Jul. 1 2016: Definition of CESM2.0
- Sep. 1 2016: Code Freeze
- Dec 2016: CESM2.0 Release
  - Full release
  - All functionality
  - CMIP6 1°

Code available through developers’ access
Document impacts in coupled simulations

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$_{\text{ice}}$, 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 WGs...

• 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)