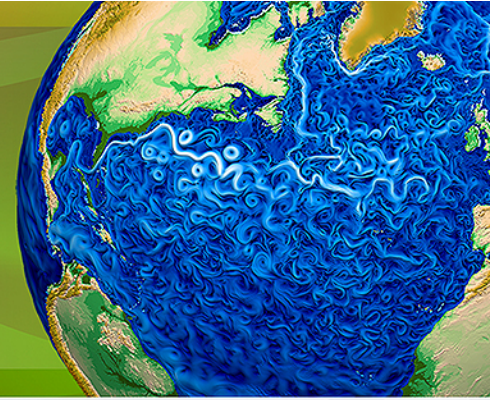




Accelerated Climate Modeling  
for Energy



# CSG Status and Future Road Map

ACME Executive Committee and Coupled Simulation Group Leaders

# CSG Road Map Epics

- v0.1 high resolution baseline
- v0.1 low resolution baseline
- High res/v0 Publications
- v0/v1 Primary Diagnostics and Metrics
- High Res and ACME Project Coupled Run Data Publication and Catalog
- v1.0 coupled system verification
- v1.0 coupled system - initial performance evaluation
- v1.0 Coupled System - tune and validate
- v1.0 Optimize Performance for v1 on NERSC and LCF architectures
- v1.0 High Resolution Coupled Initialization for 1850 and Capstone Water Cycle Simulation
- v1.0 Perpetual 1850 forcing simulations
- v1.0 science experiments
- v2.0 Science Experimental Plan
- v2.0 Coupled Model Performance and SE Requirements Identification
- v3.0 Initial Design

# Critical Task Road Map (1/2)

- 1 Investigate energy and water conservation in coupled system (all groups)
- 2 Establish baseline performance for alpha6 low-res coupled model (coupled)
- 3 Reduce SH hemisphere wind stress bias (atmos, coupled)
- 4 Sensitivity experiments to explore parameter space (coupled, atmos, ocean)
- 5 Begin testing high-res coupled simulation (coupled)
- 6 Tune the high-res (ne120) atmosphere (atmos)
- 7 Document baseline performance of stand-alone ocean and sea-ice (ocean)
- 8 Reduce land albedo bias (atmos, land, coupled)
- 9 Create compsets for easy computation of radiative forcing (aerosol and total) and Cess sensitivity (atmos, coupled)



# Critical Task Road Map (2/2)

- 10 Compute radiative forcing and Cess sensitivity for current base line atmosphere (atmos, coupled)
- 11 Test v1 ocean/ice/land with v0 atmosphere (ne30L30) as a fallback in case the new atmosphere can't be made competitive in time for the freeze date
- 12 Develop input datasets and compsets for transient simulations
- 13 Explore possibilities to reduce the magnitude of the aerosol indirect effects (atmos)
- 14 Fix energy and water conservation in the atmosphere (atmos)
- 15 Analyze and reduce major biases in low-res coupled simulations (all groups)
- 16 ACME Diagnostics (atmos, coupled, land, ocean/sea ice)
- 17 Debugging tasks