## Current and Future CVCWG Simulations

### 2013
- Single forcing simulations (CCSM4 complete, CESM1 underway)
  - Single forcing: idealized black carbon and sulfate
  - CFMIP (completed)
  - 0.25° CAM5-SE AMIP and coupled
  - Hurricane effects, CESM4 1°
  - Large ensemble
- Perturbed physics: single column and AMIP/fully-coupled

### 2014
- Single forcing simulations
  - BGC RCP runs at 1°
  - Hurricane effects, CESM4 1°
  - CESM1 at 0.25° (long term runs)
  - CESM1/GLIMMER-CISM (ice sheets)
- Decadal Prediction
  - CESM1/IAM at 1°
- Time slices at 0.25°
- Perturbed physics: land and atmos

### 2015
- Single forcing at 0.25°
  - Improved BGC
  - RCPs at 0.25°
  - CESM1 at 0.25° RCPs
  - CESM1/GLIMMER-CISM
- Decadal prediction at 0.5°
  - CESM1/IAM
- Time slices at 0.125°
CURRENT AND FUTURE CVCWG SIMULATIONS

2015-2016
CMIP6 for IPCC AR6
CAM5-SE at 0.0125°
Decadal prediction with CESM1 at 0.5°
CESM1 at 0.25° RCP runs
CESM1/GLIMMER-CISM
CESM1/BGC, RCP runs
CESM1/IAM
CESM2 at 0.25°
CESM2/BGC at 0.25°
Decadal prediction with CESM2 at 0.25°
Time slices with CAM6-SE at 0.0625° and 0.0125°
CESM/CAM5 (1°) 1920-2080
30-Member Ensemble
(historical + RCP8.5 forcing)

led by Clara Deser and Jen Kay

Wiki page
https://wiki.ucar.edu/display/ccsm/CESM+Large+Ensemble+Planning+Page

Email list
http://mailman.cgd.ucar.edu/mailman/listinfo/cesmcam5_lrgens
Observations

1920-2004 Air T Trend

Member 1

-3.5 -2.5 -1.5 -0.8 -0.4 0 0.4 0.8 1.5 2.5 3.5 (°C)

Large Ensemble #1
Observations

1920 1940 1960 1980 2000
Purpose: To assess modes of coupled climate variability in CESM with comparison to observations and other CMIP5 models.

We solicit your input!
Pacific Decadal Oscillation (PDO) is a natural climate pattern in the Pacific Ocean characterized by fluctuations in temperature and sea surface height. It influences weather patterns and marine ecosystems in the region and beyond. The images show different modeling efforts to simulate the PDO, with varying degrees of accuracy and representation. Each model is labeled and indicates the period from 1960-2005, showcasing how different models capture the PDO's spatial and temporal variability.
CAM4-1° 1871-2012 AMIP 5-member ensembles (Global Ocean, Tropical Ocean)

http://www.cesm.ucar.edu/working_groups/Climate/experiments/cesm1.0/

To be repeated with CAM5-1°, with and without IPCC radiative forcings
CESM/CAM5 (1°) 1920-2080 Large Ensemble

- Historical and RCP8.5 forcing
- Ensemble created with round-off error in air temp.
- Continuous daily and monthly output plus decades with 6-hourly output
- Archiving single variable time series
- Each member will take ~2 weeks on Yellowstone

**Status:**
- 1850 control run at year 685
- First historical run complete (1850-2005)
- First RCP8.5 run started (2006-2080)