Welcome to

Predictability Day

CESM Resources for Predictability Research

Large suite of existing community simulations:

<u>"Free-running" model</u>

CESM Large Ensemble (RCP8.5; 40 members; 1920-2100)

CESM Medium Ensemble (RCP4.5; 20 members; 2006-2080)

CESM 1.5^{o} Ensemble (11 members; 2006-2100)

CESM 2° Ensemble (11 members; 2006-2100)

CESM 1.5^{o} overshoot Ensemble (6 members; 2006-2100)

CESM Last Millennium Ensemble (850-2006; 36 runs; different forcing sets)

Control Runs

<u>Initialized prediction runs</u>

CESM Decadal Prediction Large Ensemble

- 62 initialization times (Nov 1 of 1954, 1955, …, 2014, 2015)
- 40-members for each initialization
- 122 month runs

CESM Resources for Predictability Research

<u>Numerous (supported) model configurations</u>

Fully coupled, component-only, simpler models, different scenarios, …

<u>Data assimilation capabilities within CESM (for land, ocean, atmosphere, ice)</u>

Stay tuned for more discussion on Thursday

<u>Getting involved in working groups</u>

<u>~Easy to run "perfect model experiments"</u>

- Simulations initialized with nearly-identical conditions from a climate model to predict the conditions of the climate model
- Changing "pertlim" within CAM namelist provides easy way to create an ensemble (adds specified perturbation to initial temperature field, usually of order 1.e-14; specify different pertlim values for different members)