

Welcome to

Predictability Day

CESM Resources for Predictability Research

Large suite of existing community simulations:

“Free-running” model

CESM1 Large Ensemble (RCP8.5; 40 members; 1920-2100)

CESM1 Medium Ensemble (RCP4.5; 20 members; 2006-2080)

CESM1 1.5° Ensemble (11 members; 2006-2100)

CESM1 2° Ensemble (11 members; 2006-2100)

CESM1 1.5° overshoot Ensemble (6 members; 2006-2100)

CESM1 Last Millennium Ensemble (850-2006; 36 runs; different forcing sets)

Control Runs

CESM2 Runs coming (current PI control, 20th-21st century and eventually a large ensemble)

Initialized prediction runs

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

Numerous (supported) model configurations

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

Data assimilation capabilities within CESM (for land, ocean, atmosphere, ice)

Getting involved in working groups

~Easy to run “perfect model experiments”

- 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)