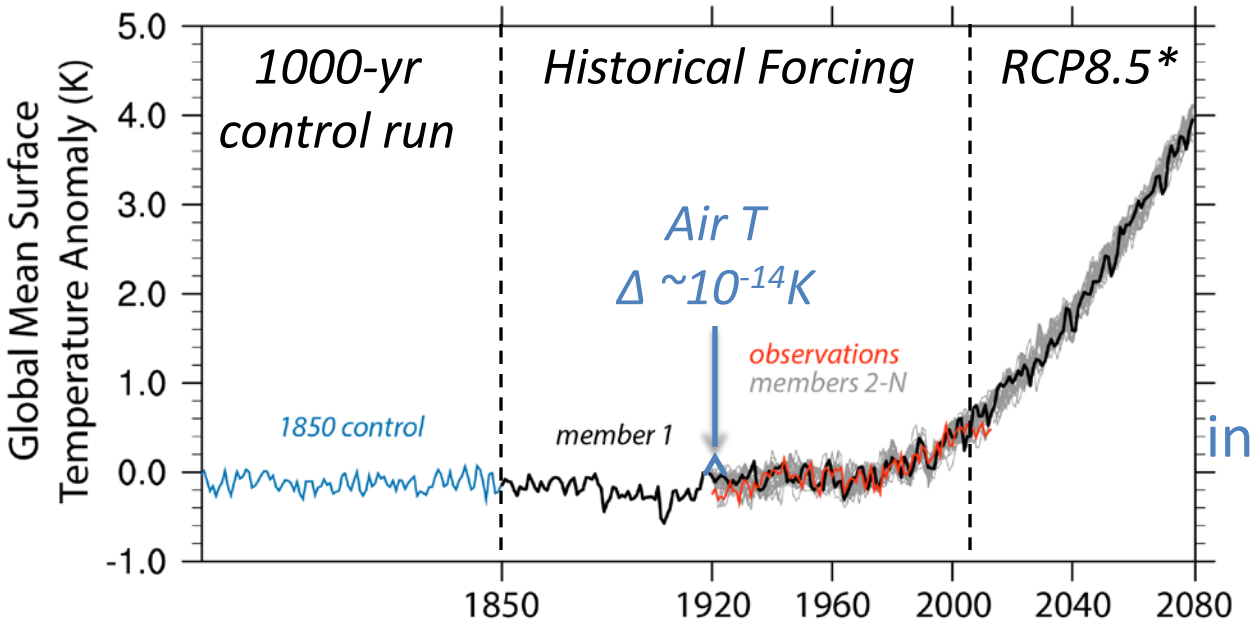
CESM Climate Variability and Change WG Activities Update, March 2014

- Climate Variability Diagnostics Package (Adam Phillips)
- CESM-CAM5 Large Ensemble
- Additional runs

CESM-CAM5 Large Ensemble Project



30 Runs
1920-2080

Round-off error to initial air temperatures

Clara Deser and Jen Kay (leads)

Marika Holland, the CESM internal co-chairs, Adam Phillips, Andy Mai, Adrianne Middleton, Gary Strand, and many more in the CESM Community

Kay, Deser et al. (BAMS, to be submitted April 2014)

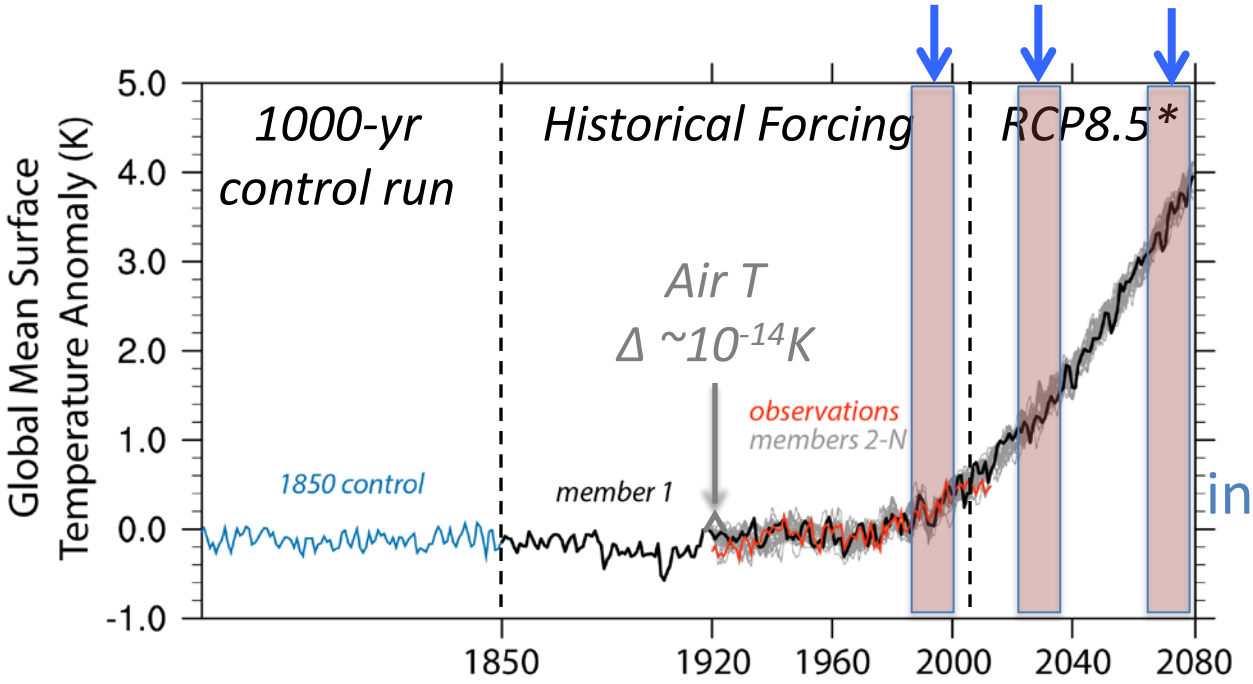
Model output will be available
on the ESG in June 2014
(Single variable files, lots of daily data, 190 TB)

Large Ensemble website (live in April):
http://www.cesm.ucar.edu/experiments/cesm1.1/LE/

E-mail list for updates – sign up at:
http://mailman.cgd.ucar.edu/mailman/listinfo/cesmcam5_lrgens

CESM-CAM5 Large Ensemble Project

6-hourly output for forcing regional climate models



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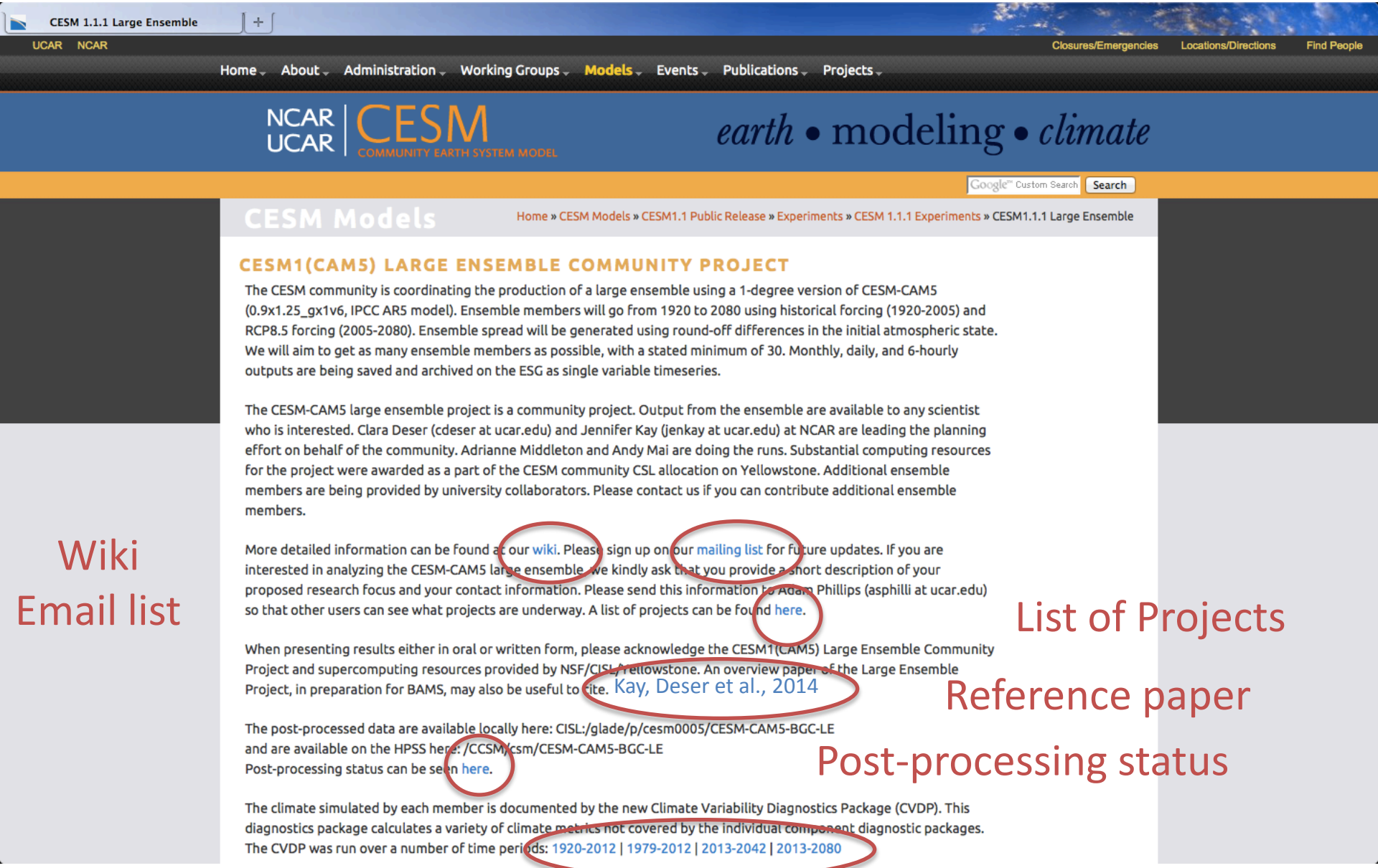
CESM-CAM5 Large Ensemble Web Page



Wiki

Email list

List of Projects

Reference paper

Post-processing status

Plots from the CVDP

Project Descriptions: please email us

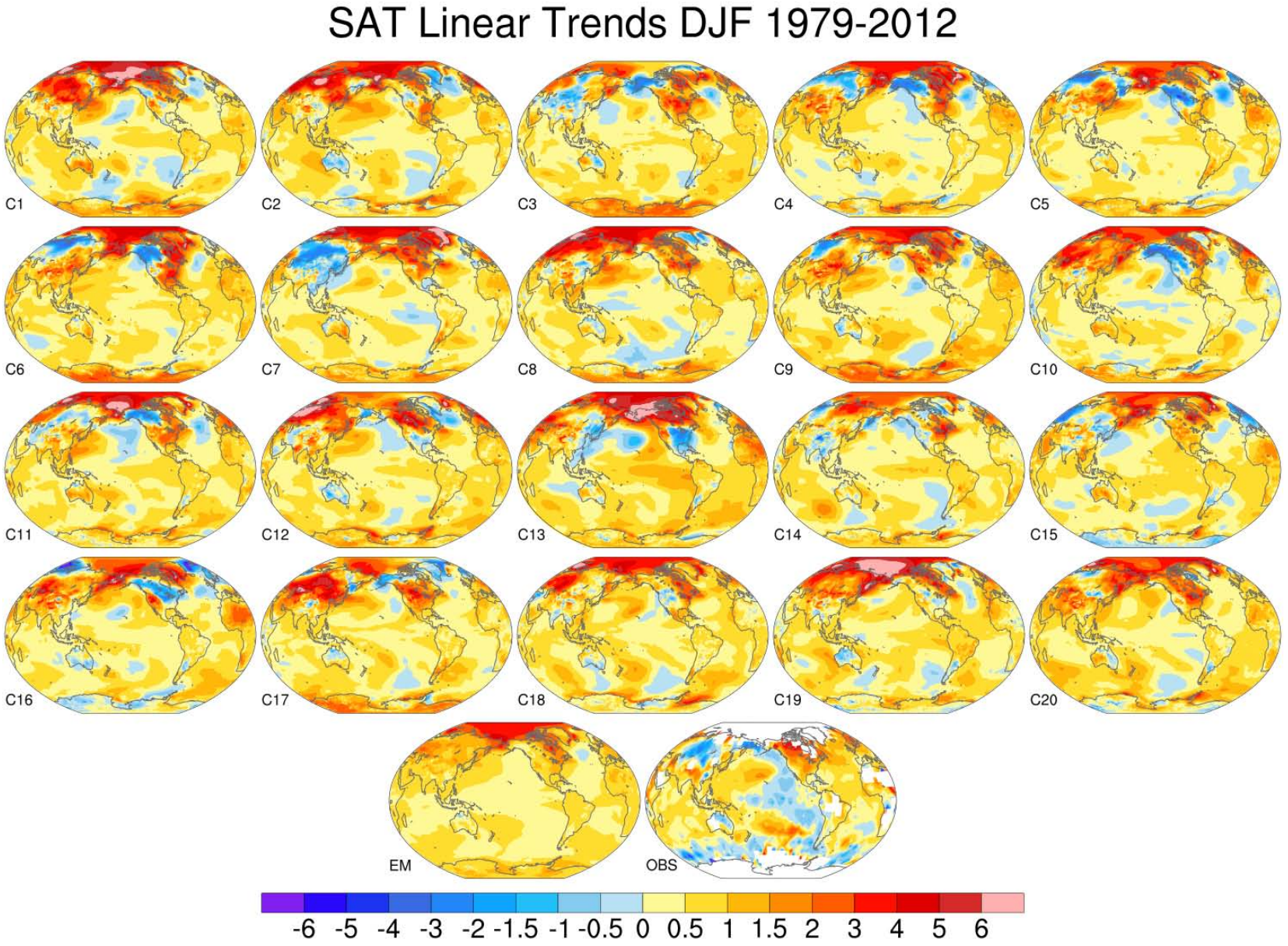
(asphilli@ucar.edu)

CESM1(CAM5) LARGE ENSEMBLE COMMUNITY PROJECT

Ongoing Project Descriptions

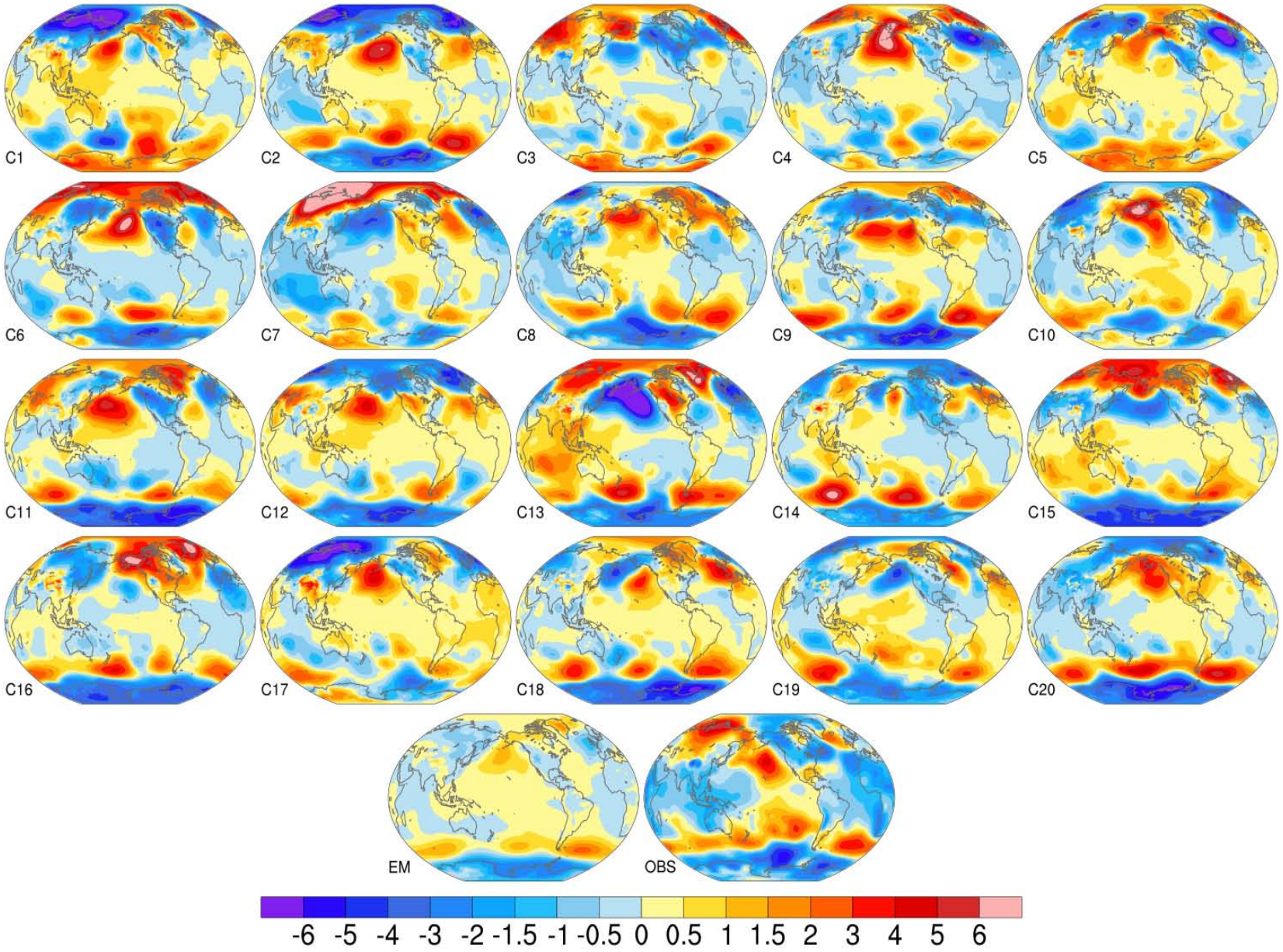
BAMS overview paper	Jen Kay (jenkay at ucar.edu), Clara Deser (cdeser at ucar.edu) and co-authors TBD "The CESM Large Ensemble Project: A Community Resource for Studying Climate Change in the Presence of Natural Climate Variability" Overview paper of the Large Ensemble intended for BAMS. This will serve as the "official" reference for this project. It will describe the motivation for such a project, discuss how the runs were configured, and highlight some preliminary results, with the intention of advertising the Large Ensemble to the broader climate community.
Robustness of the SAM response to GHG and ozone forcing	Clara Deser (cdeser at ucar.edu), Tingting Fan (tingting at ucar.edu) and Dave Schneider (dschneid at ucar.edu) We are interested in looking at the 3-dimensional structure of the extra-tropical southern hemisphere atmospheric circulation response to GHG and ozone forcing in each of the ensemble members, with a focus on the period of ozone depletion in recent decades.
Variability and predictability of the North Atlantic	Gokhan Danabasoglu (gokhan at ucar.edu), Steve Yeager (yeager at ucar.edu), Alicia Karspeck (aliciak at ucar.edu) and Laura Landrum (landrum at ucar.edu) We are interested in using the Large Ensemble and the Large Ensemble control to look at variability, variability mechanisms, predictability, and prediction in the North Atlantic with a focus on the Atlantic Meridional Overturning Circulation.
Contrasting urban and rural heatwaves over the U.S.	Keith Oleson (oleson at ucar.edu) I am interested in investigating the variability of heatwaves and extreme heat events over the U.S. for present-day and future climate with a focus on the differences between urban and rural areas. This project may become part of a larger collaboration with J.F. Lamarque and Claudia Tebaldi as part of the CGD Climate and Human Systems Project (CHSP) (still under discussion).
Changing Polar Bear Sea Ice Habitats	Marika Holland (mholland at ucar.edu), Steven Amstrup (Polar Bears International) and Jen Kay (jenkay at ucar.edu) We are interested in using daily sea ice concentration data to assess changes in polar bear sea ice habitat over the 20th and 21st century.

The single realization problem



The single realization problem

SLP DJF Trends 1979-2012



Additional Runs

CVCWG Simulations

CVCWG SIMULATIONS COMPLETED AND PUBLISHED

The following table summarizes the simulations completed by the CVCWG that have been published on the Earth System Grid (ESG) portal here at NCAR or the core Earth System Grid Federation (ESGF) CMIP5 portal at PCMDI.

These simulations were published within the time period of June 2013 – March 2014. The table will be updated periodically as new runs are completed and published.

Please check the CMIP5 errata page for additional details.

CESM1 - CAM5 RUNS

ESG Name	Case Name	Description	Known Problems	Month Published
CESM1-CAM5_rcp85.r[1-3]i1p1	b.e11.BRCP85C5CN.f09_g16.(001,002,004)	RCP8.5 atmospheric daily data (r[1-3]) and atmospheric monthly data (r1)	"Amon" from r3i1p1 updated on 30 Jan 2014. Discard older versions.	
CESM1-CAM5_rcp60.r[1-3]i1p1	b.e11.BRCP60C5CN.f09_g16.(001,002,004)	RCP6.0 atmospheric daily data		
CESM1-CAM5_rcp45.r[1-3]i1p1	b.e11.BRCP45C5CN.f09_g16.(001,002,004)	RCP4.5 atmospheric daily data		
CESM1_CAM5-rcp26.r[1-3]i1p1	b.e11.BRCP26C5CN.f09_g16.(001,002,004)	RCP2.6 daily atmospheric data		
CESM1-CAM5_historicalMisc.r[1-3]i1p17	b.e10.B20VOLCC5CN.f09_g16.(001,002,004)	20C (1850-2005) volcano-only single forcing, monthly data and daily atmospheric data		
CESM1-CAM5_historicalMisc.r[1-2]i1p16	b.e10.B20SOLARC5CN.f09_g16.(001,002,004)	20C (1850-2005) solar-only single forcing, monthly data		