Welcome to
CFSv2 Evaluation Workshop

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Workshop Organizers

- Jin Huang (NCEP/CTB)
- Jim Kinter (COLA)
- Shrinivas Moorthi (NCEP/EMC)
- Wanqiu Wang (NCEP/CPC)
- Annarita Mariotti (CPO)
Special Thanks

• Workshop sponsorship from CPO and NCEP

• Logistic support
  o Sky Yang (CPC)
  o Tania Sizer (UCAR)
  o Esther Major (Raytheon)

• All participants for your interest in NCEP CFS

• Great responses to the discussion questions
Mission
To accelerate the transition of scientific advances from the climate research community to improved NOAA climate forecast products and services.

• **CTB supports** *R2O and O2R transitions*
  - *CTB grants funded by CPO/MAPP*
  - *CTB Facility (FTE, computer) support by NCEP*

• **Three science priorities**
  1) *CFS model improvement*
  2) *Multi-model ensembles*
  3) *Climate forecast products*

• **CTB provides a platform and mechanisms** for NCEP to interact and collaborate with the external climate research community
133 Registered Participants (and 59 Abstracts)
Logistics

Science Presentations

20 minutes including Q&A

Today:

• Lunch (provided) and Poster Viewing
• Slides show of highlights of CFSv2 Evaluations
  (Thanks to Arun Kumar)

Tomorrow:

• Lunch on your own
• Look at outside of the new NCWCP building
Workshop Sessions

1. Programmatic Overview

2. CFSv2 Evaluations
   1) Assessment of CFSv2 Prediction Skills
   2) Evaluation over ocean
   3) Evaluations of climate modes and decadal variability
   4) Evaluation over land

3. Physical/Climate Processes and Modeling

4. Climate Modeling Strategy

5. Synthesis Reports (Kumar and Moorthi)

6. Discussions (Lead: Kinter)
   – Start with a summary of all responses to the questions
Questions to be Discussed

1. CFSv2 Evaluations

• Do the CFSv2 evaluations included in submitted abstracts and done elsewhere sufficiently document the model's current status as a climate forecast and research tool and the improvements from CFSv1 to CFSv2?

• What additional diagnostics and experiments, especially process-oriented model diagnosis, do you suggest to further understand the model biases in CFSv2?

• Does the current data archive support process-oriented diagnosis of CFSv2? Have we sufficiently capitalized on the data collected from process studies, field campaigns and satellite measurements for CFSv2 model evaluations and improvements?

• What standard evaluation metrics for CFS should be generated routinely by NCEP?
2. Model improvements towards CFSv3

• How can the model evaluation/diagnosis process for CFSv2 be integrated into the CFSv3 development process?

• In the CFSv3 Planning Meeting in August 2011, several recommendations were made for how to improve the model development process, including, among others, that Planning for the next generation of CFS.

• What are the potential synergies among climate modeling efforts at NCEP, at other NOAA labs/centers, and in the external community? How can NOAA take best advantage of these synergies?

• What are the specific requirements for NCEP infrastructure to support for CFSv3 development by NCEP and its external collaborators?
Workshop Objectives

- **Evaluate CFSv2**
  - Improvements in CFSv2 over CFSv1
  - Biases in CFSv2

- **Plan for model improvement towards CFSv3**
  - Design experiments to understand how to incrementally improve upon CFSv2,
  - Test coupling of the latest GFS with state-of-the-art model components.

  or

- **Bold and far-reaching vision and strategy for CFSv3**

- **Define priorities and mechanisms for NCEP - external collaborations on climate modeling**
Expected Workshop Outcome

A White Paper on CFSv3 development

- Near team priority
- Long-term vision and strategy
- A Core Team will develop a draft after the workshop and circulate among all the participants.