The Climate Test Bed

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

• CTB embraces the R2O and O2R paradigms

• CTB emphasizes high profile science activities
  – CFS*/GFS** improvements
  – Multi-model ensembles
  – Climate forecast products

• Competitive Grants Program
• CTB Seminar Series
• CPC-RISA Program
• Distinguished Visiting Scientist Program (FY09)

*CFS – Climate Forecast System
**GFS – Global Forecast System
Charge to CTB SAB

- Provide independent scientific advice, broad direction, and endorsement of ongoing and planned activities
  - Strategic priorities
    - CFS Improvements
    - Multi-Model Ensembles
      - International (IMME)
      - National (NMME)
    - Climate Forecast Products
  - Future plans (FY09+)
    - Visiting Scientist Program
    - Model Test Facility
CFS Improvements

Goal

To accelerate improvements to the operational CFS and to enhance its use as a skillful tool in providing NCEP’s climate predictions to users

Activities

- **CFS V1 implemented in 2004**
  - Real time coupled 9-month forecasts
  - 25 years of hindcasts
- **CFS V2 (2010)**
  - CFS Reanalysis Reforecast (CFSRR) project (ongoing)
  - Coupled ocean-atmosphere-land-sea ice DA 1979-2009
Multi-Model Ensembles

Goal

A multi model ensemble prediction system that leverages the best national and international models for improved predictions on intraseasonal-to-interannual time scales

Activities

- Consolidation techniques
- Verification
- MME Prediction System
  - IMME (NCEP, ECMWF, Meteo-France, & UKMET)
  - NMME (NCEP, GFDL, NASA, NCAR)

Collaboration with NSF, NCAR, COLA, NCEP, GFDL, and CPO (and IRI, CLIVAR in future)
Climate Forecast Products

Goal
To provide reliable climate forecast products that are responsive to the needs of users and incorporate state-of-the-art science and research.

- Relationships with partners
- Delivery of useful products
- Continuous flow of user requirements
- Strong research component

Activities

- Forecast Evaluation Tool (FET)
  - Forecast evaluation; data access and display capability
- GIS (including in GRADS)
- Drought (NIDIS) products
- Extreme event products
4th Annual CTB SAB Meeting
September 11-12, 2008

- Change in leadership
- Overall modest progress since 3rd meeting
- Science Plan for Climate Forecast Products well received
- Good start with IMME
4th Annual CTB SAB Meeting
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- What in fact is the CTB? What is the added value accrued to date as a result of the CTB?
- CTB Oversight Board has never met.
- New thrust/initiative for CTB every year.
- No climate system view
- No serious attempt to develop a NMME
- Top priorities for CFS no different than for NWP 20 years ago
- Little engagement with external community wrt to priorities
- Support of NIDIS not evident
CTB Progress since 4th CTB SAB Meeting

- **NMME**
  - Nov 17 meeting with NSF, NCAR, COLA, GSFC, GFDL, NCEP to develop a strategy
  - “White paper” with operational and research requirements
  - Post doc at COLA to evaluate MME with GFDL & NCEP

- Expanding CPC-RISA program to develop a user requirements process for developing climate products.

- Support for joint CPC-CBRFC-OHD proposal to develop drought monitoring & forecast products in support of NIDIS Pilot for the Upper Colorado River Basin

- Working with WRCC to provide CFS data for use in developing vegetation stress index