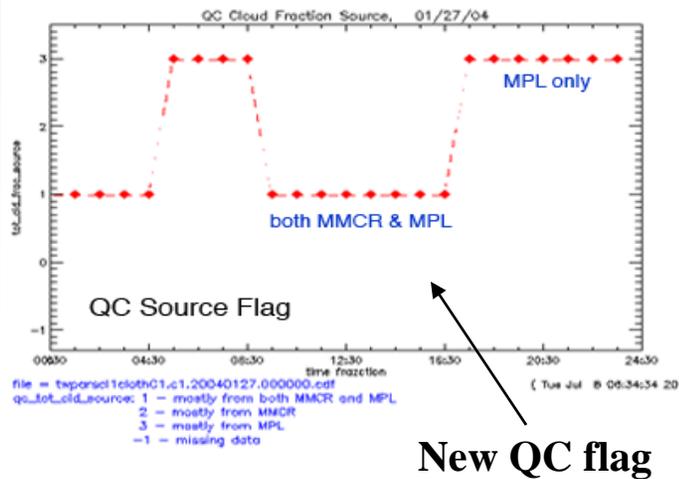
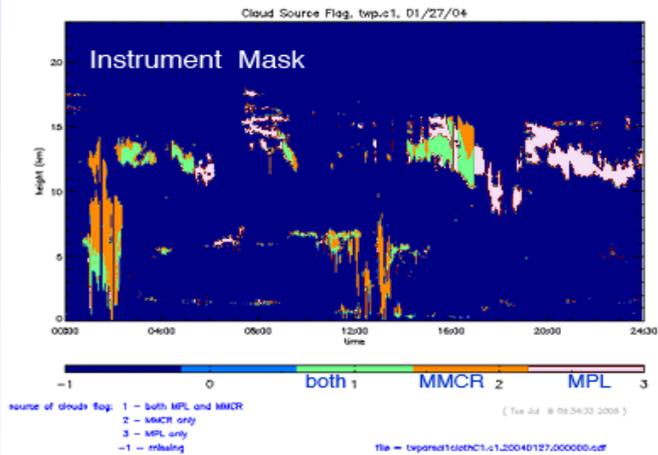


## **Data development in support of CMWG**

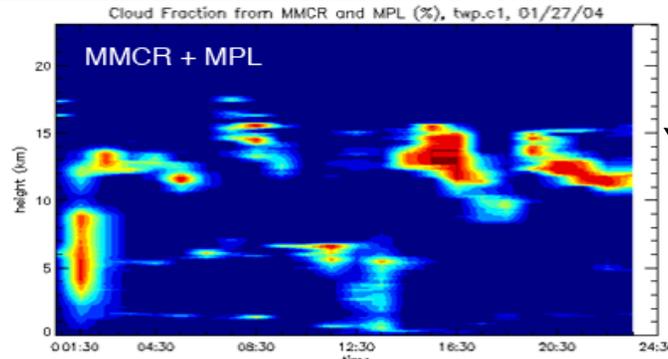
- **Climate modeling best estimate data: current status and future plan**
- **Forcing and evaluation data for TWP-ICE, ISDAC, and CLASIC**
- **Long-term continuous forcing at SGP and TWP Darwin site**
- **Other issues**

# Climate Modeling Best Estimate Data - Version 2 Released

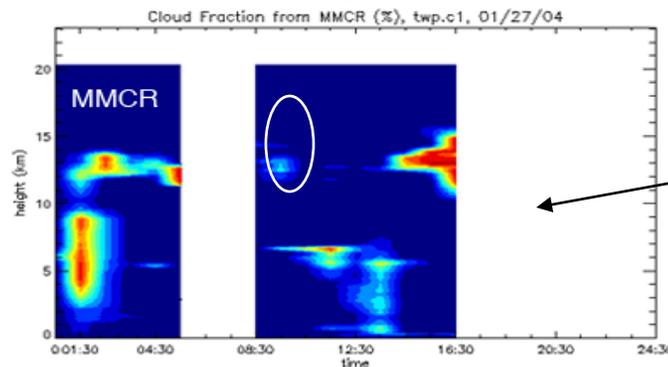
Climate Modeling Best Estimate Version 2 release



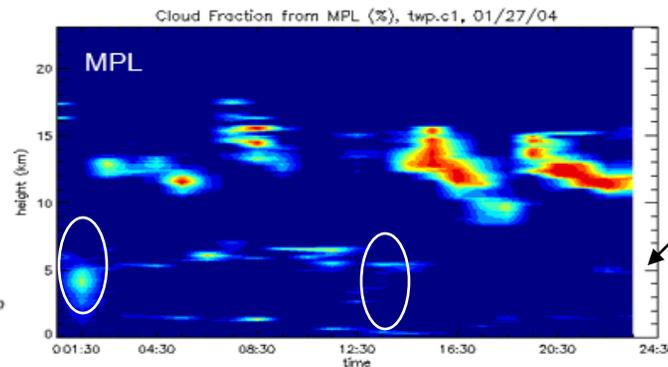
New QC flag



Final product



Optically thin clouds could be missed by MMCR



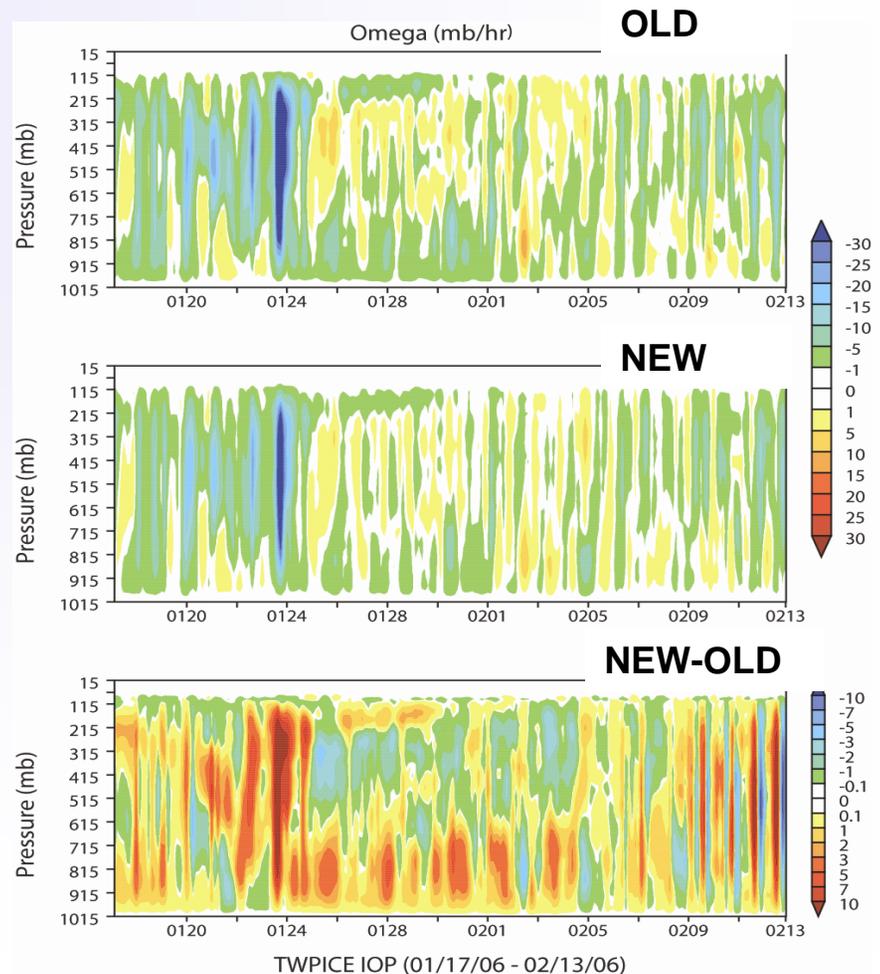
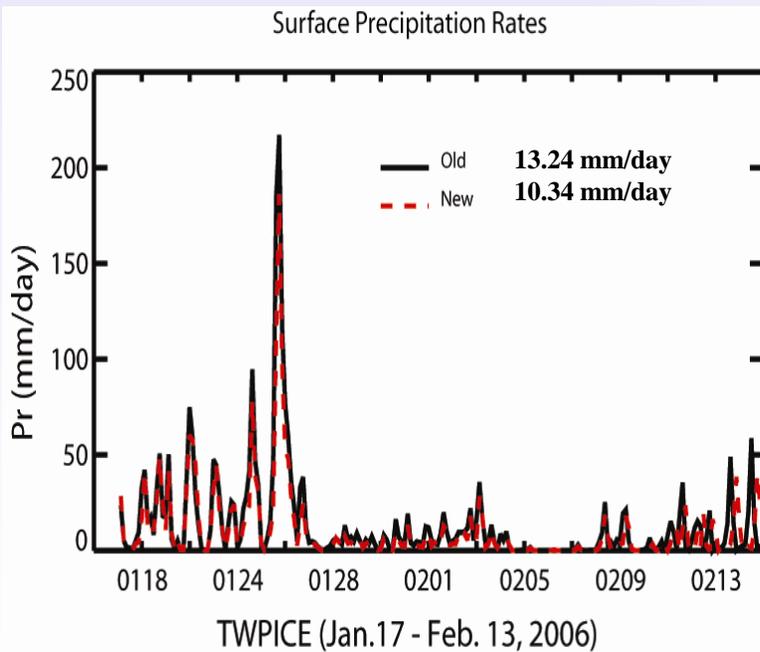
MPL can't penetrate optically thick cloud layers

## **Future Plan on CMBE Data**

- **More important fields to be added to the CMBE data set**
  - **Soundings**
  - **Surface rainfall, turbulence fluxes, and other surface meteorology variables**
  - **TOA radiative fluxes**
  - **Cloud microphysical properties**
- **Variables will be classified into different classes to reflect the quality of each field contained in the CMBE data**

## Forcing for TWP-ICE (1/17-2/13, 2006)

- The forcing data have been updated using the revised C-POL radar precipitation data. The revised precipitation rates are about 20% smaller than the original one



# Sub-Domain Forcing Available in ARM Archive

## Logic

- The east and west domains for active monsoon period

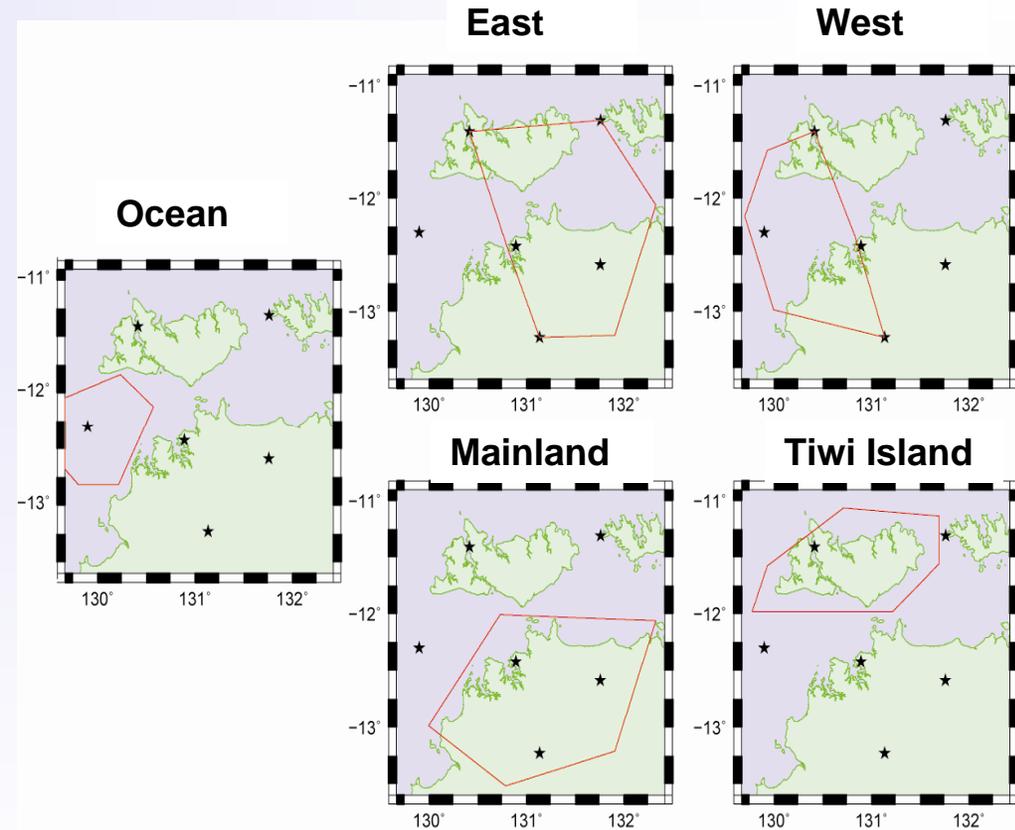
13-25 Jan. 2006

- For the suppressed monsoon, the whole domain is used

26 Jan. – 2 Feb. 2006

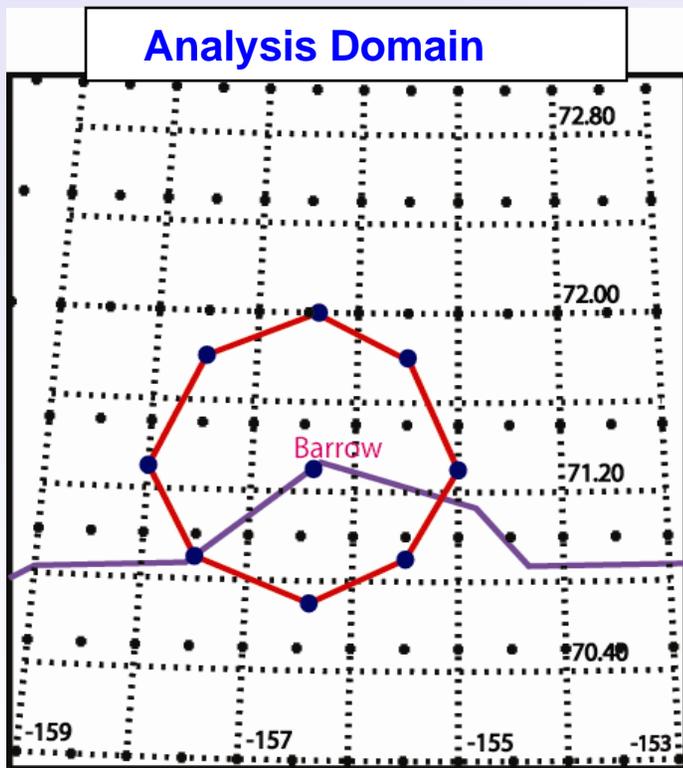
- The Tiwi, mainland, and ocean domains for studying convection with different BL structure during break period

3 – 13 Feb. 2006

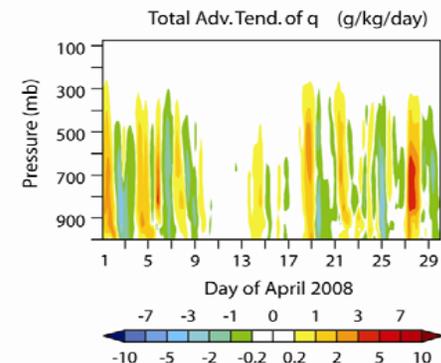
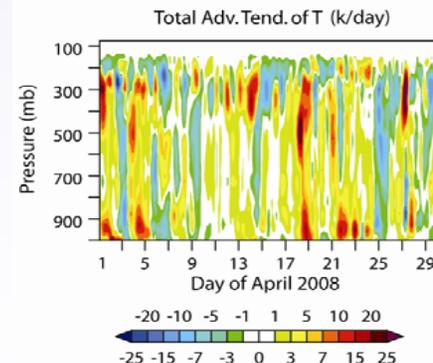
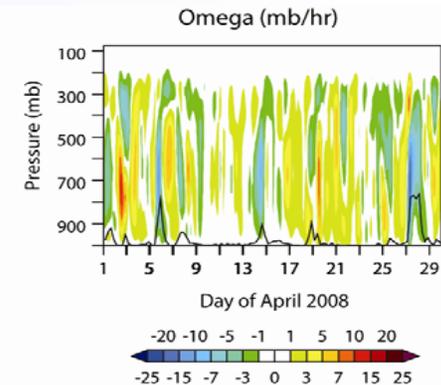
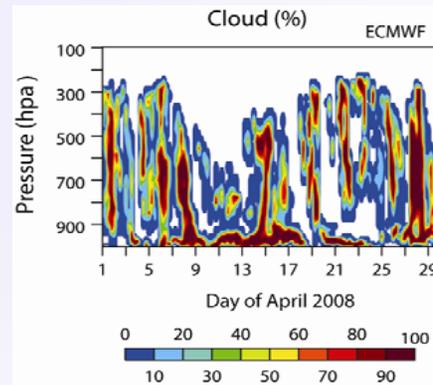


# Forcing for Indirect and Semi-Direct Aerosol Campaign (ISDAC) (April 1-30, 2008)

## Based on ECMWF

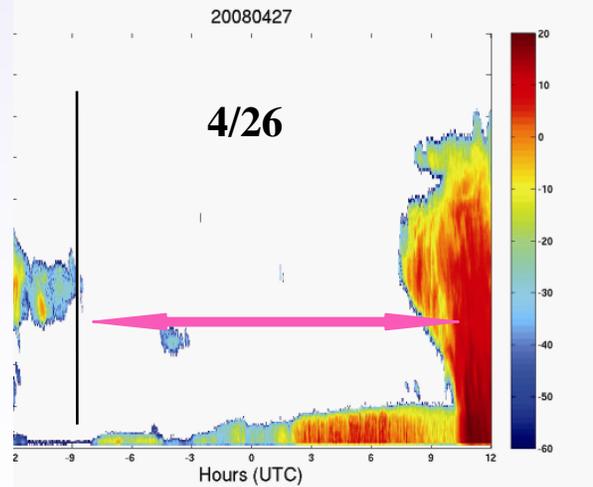
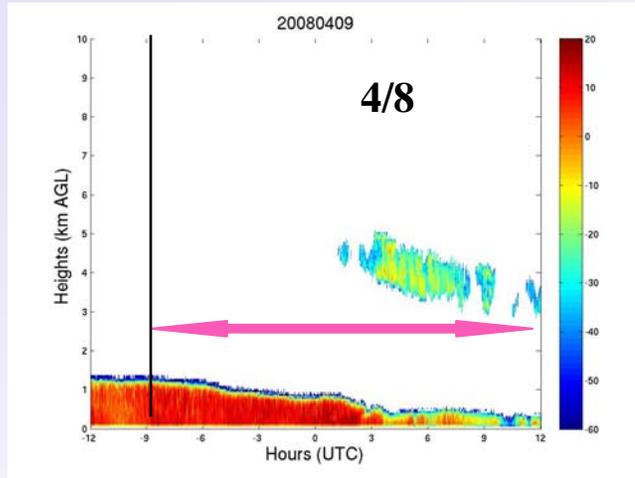


Could be improved using surface observations at Barrow

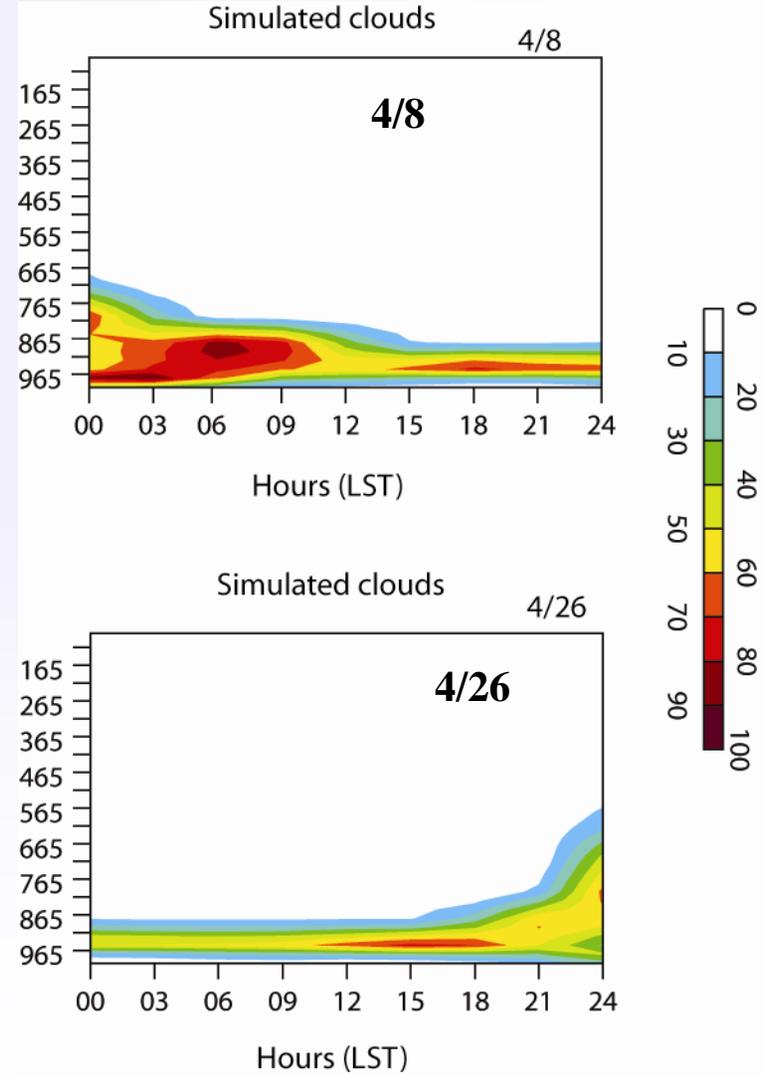


# SCAM simulations

## Observations

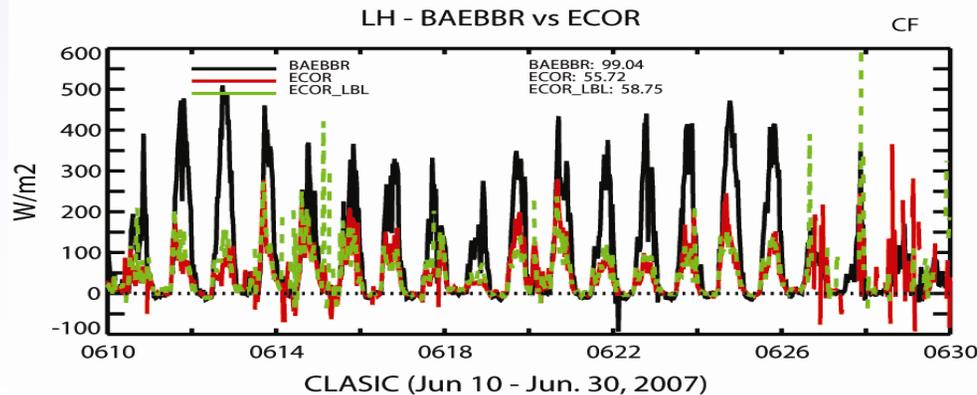
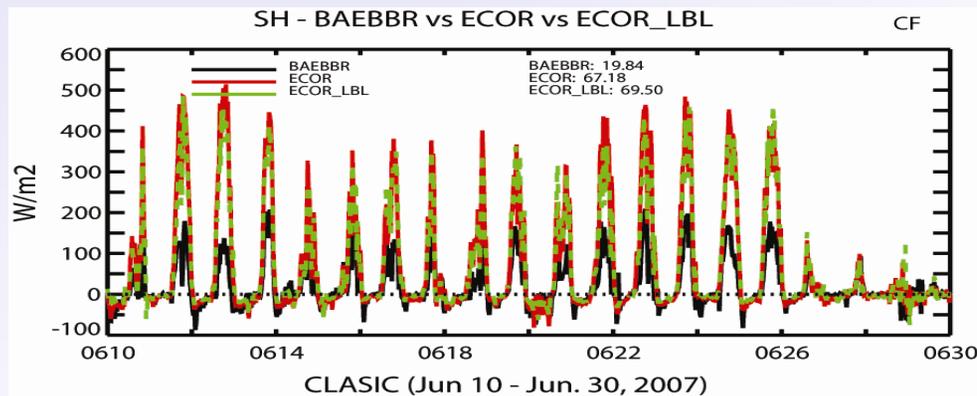


Verlinde and Bahrman  
(2008)



# Forcing for Cloud and Land Surface Interactions Campaign (CLASIC) at SGP (June 9 – 30, 2007)

- ECOR data will be incorporated into the variational analysis



- *Significant differences between EBBR and ECOR*

- *ECOR and EBBR see different vegetations. ECOR sees mostly crops and EBBR always sees grass.*

Forcing will be available by the end of 2008

## **Long-Term Continuous Forcing Data**

- **Extend the long-term forcing data at SGP to recent years**
  - RACORO
- **Develop long-term forcing at TWP-Darwin**
  - Work with Christian Jakob's group

## Other Issues

- **Archive long-term CRM data?**
  - Prof. Xiaoqing Wu has run his CRM for 2000 at SGP
  - Dr. Robert Pincus's group has run SAM for 1999-2001 at SGP Shrink
- **Shrink SGP to 100x100 km and redesign the EFs (layout and instruments) using OSSEs to provide good input for running CRMs and even LES's**
- **Reduce ~25% effort on Variational Analysis in the future**
- **BBHRP**

**The END**