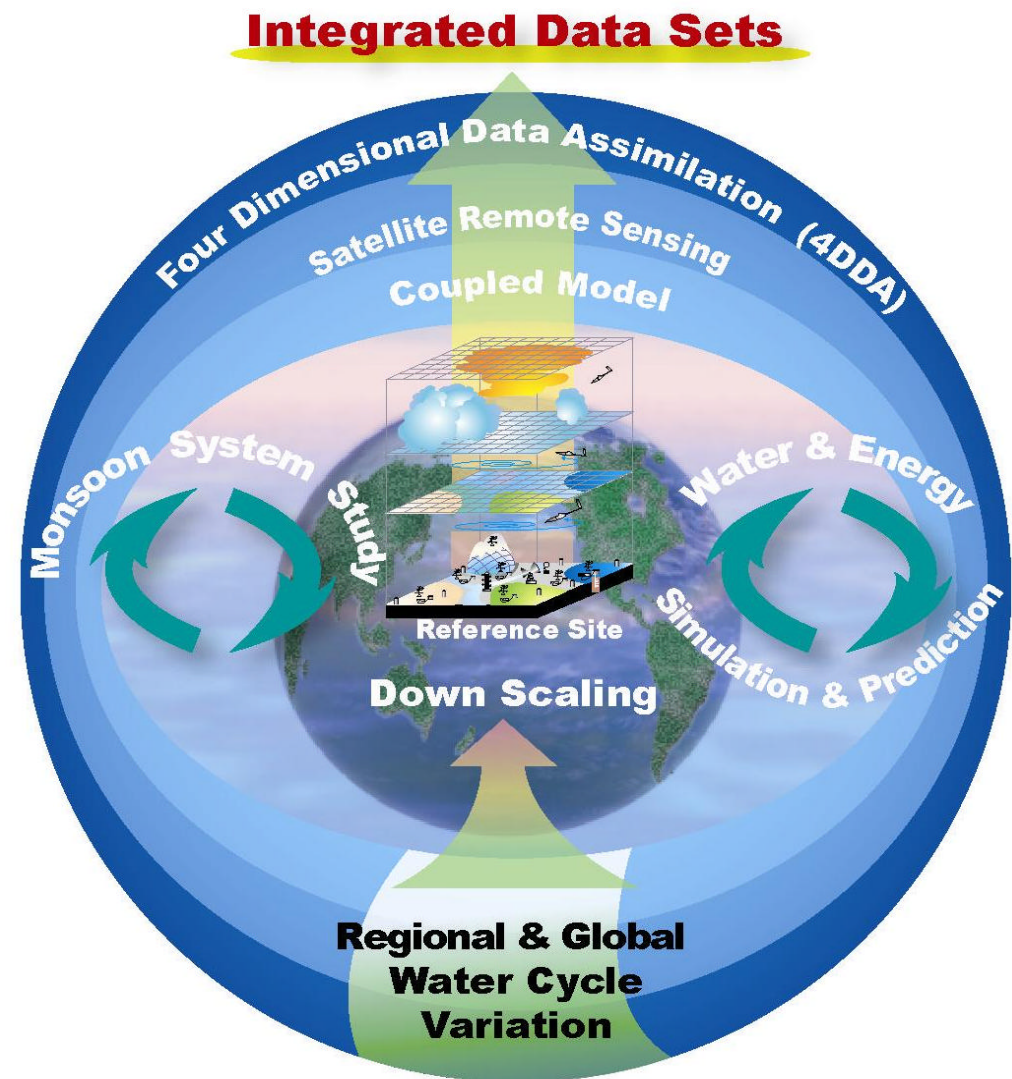


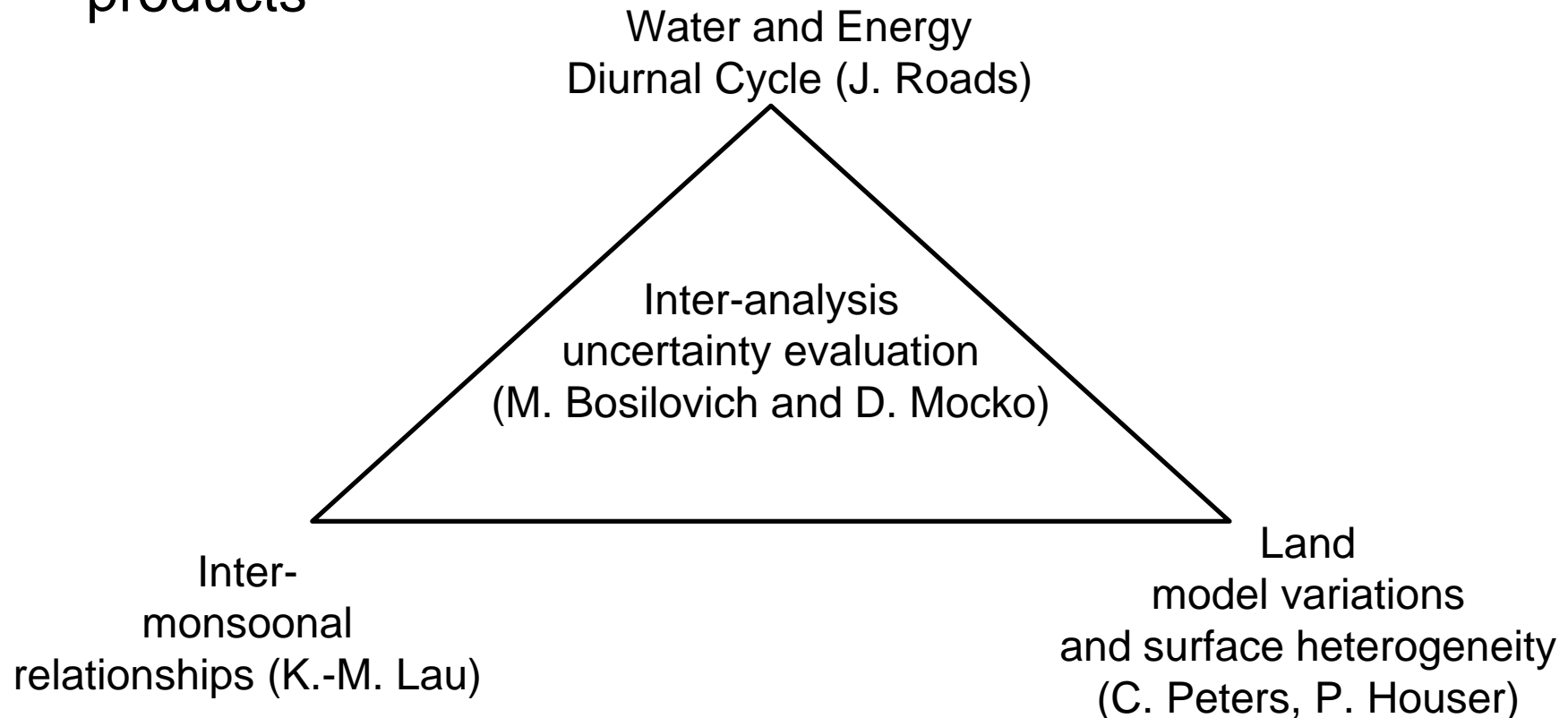
# CEOP Implementation Plan

- As many as 10 inter-national NWP or research centers agreed to provide operational analyses for the CEOP time periods
- There are separate data archives established for analysis, satellite and insitu observations
- Monsoons and the Water and Energy Cycles provide the science drivers
- Can we use this plan to feedback to the model developers?



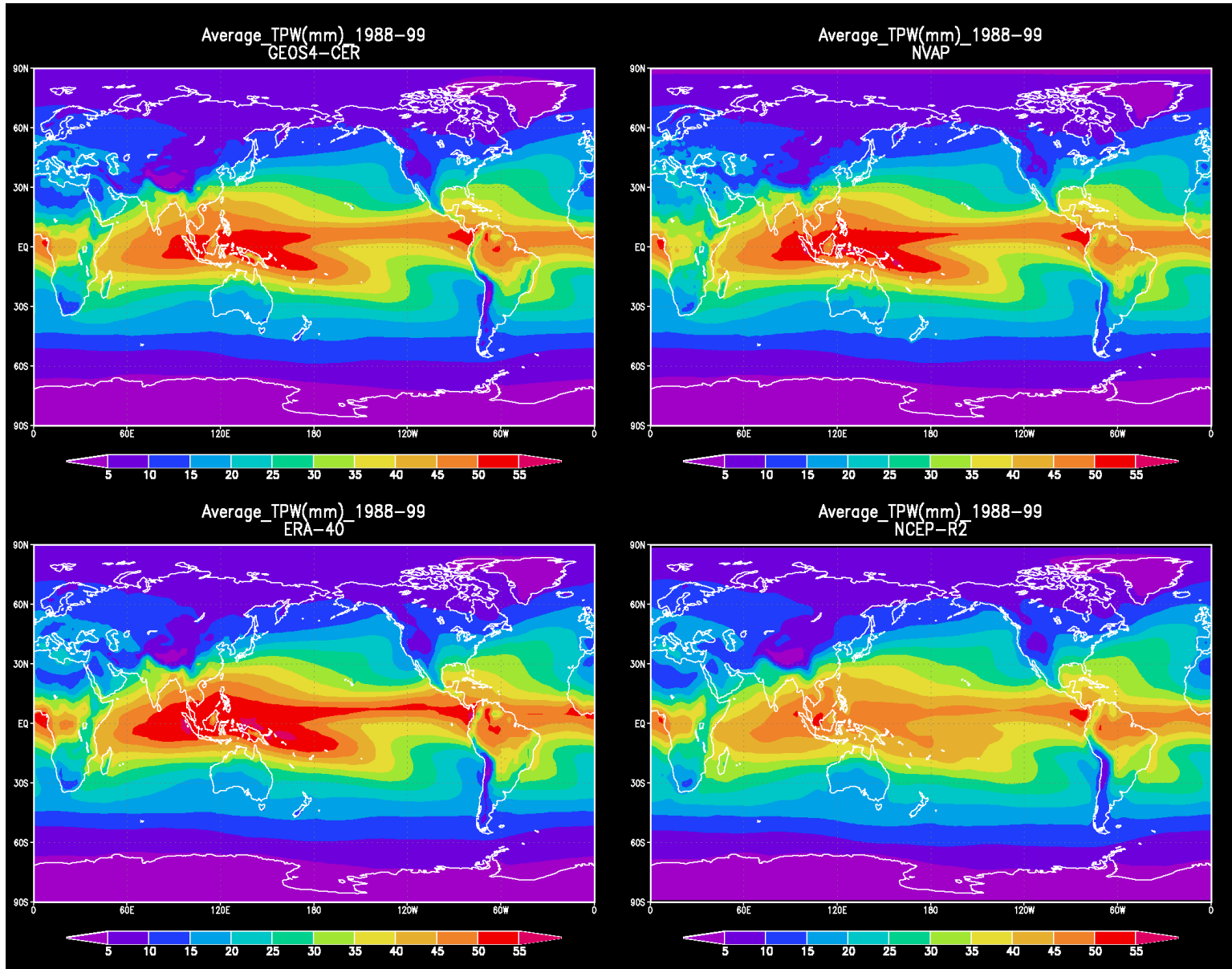
# CEOP Model & Analysis Evaluation

- Objective: An initial study to quantitatively evaluate the uncertainty of analyses using many different centers products

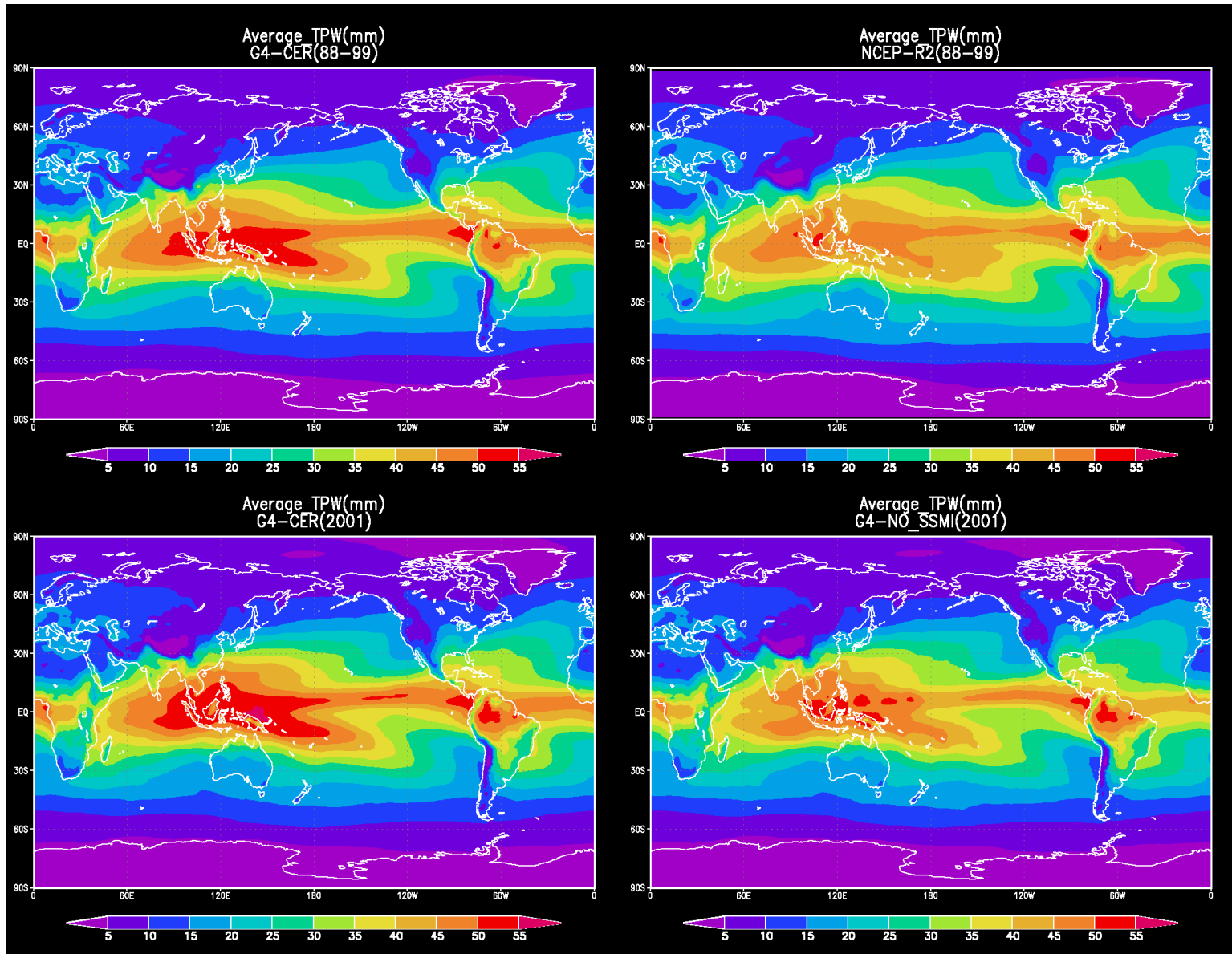


- GMAO perspective: 2003-2004, overlapping observed data sets and analyses should make for good validation and legacy of GEOS5 for R&D

# TPW: Reanalyses and NVAP

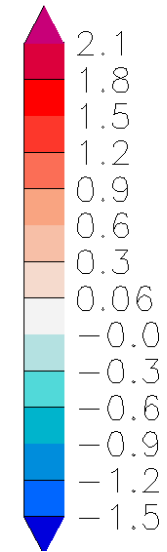
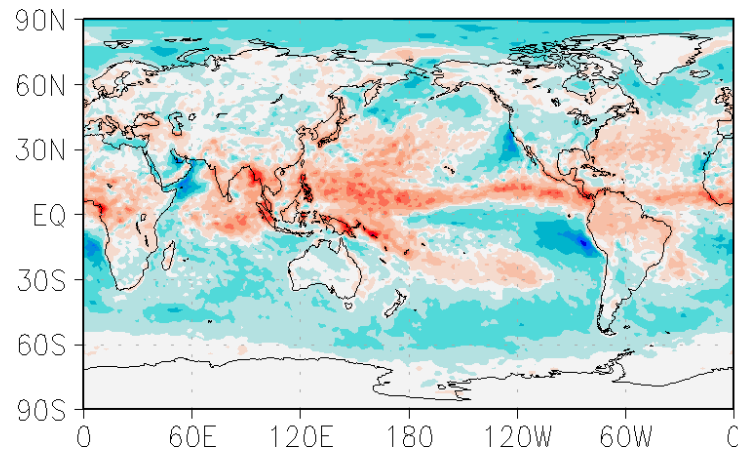


# SSMI Impact

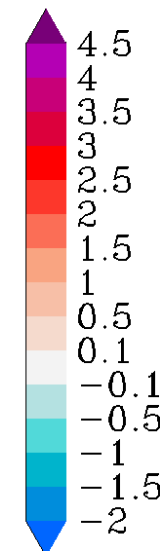
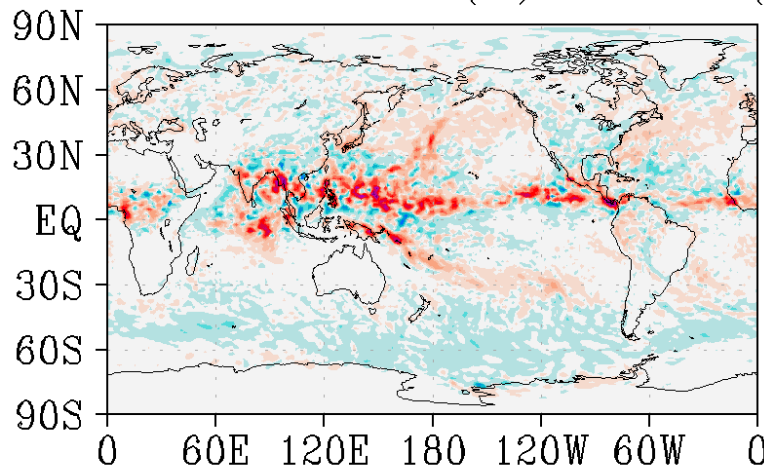


# GEOS5 SSMI Impact

Total Precipitable Water  
AUG 2004 EXP(A) – CTL(B)

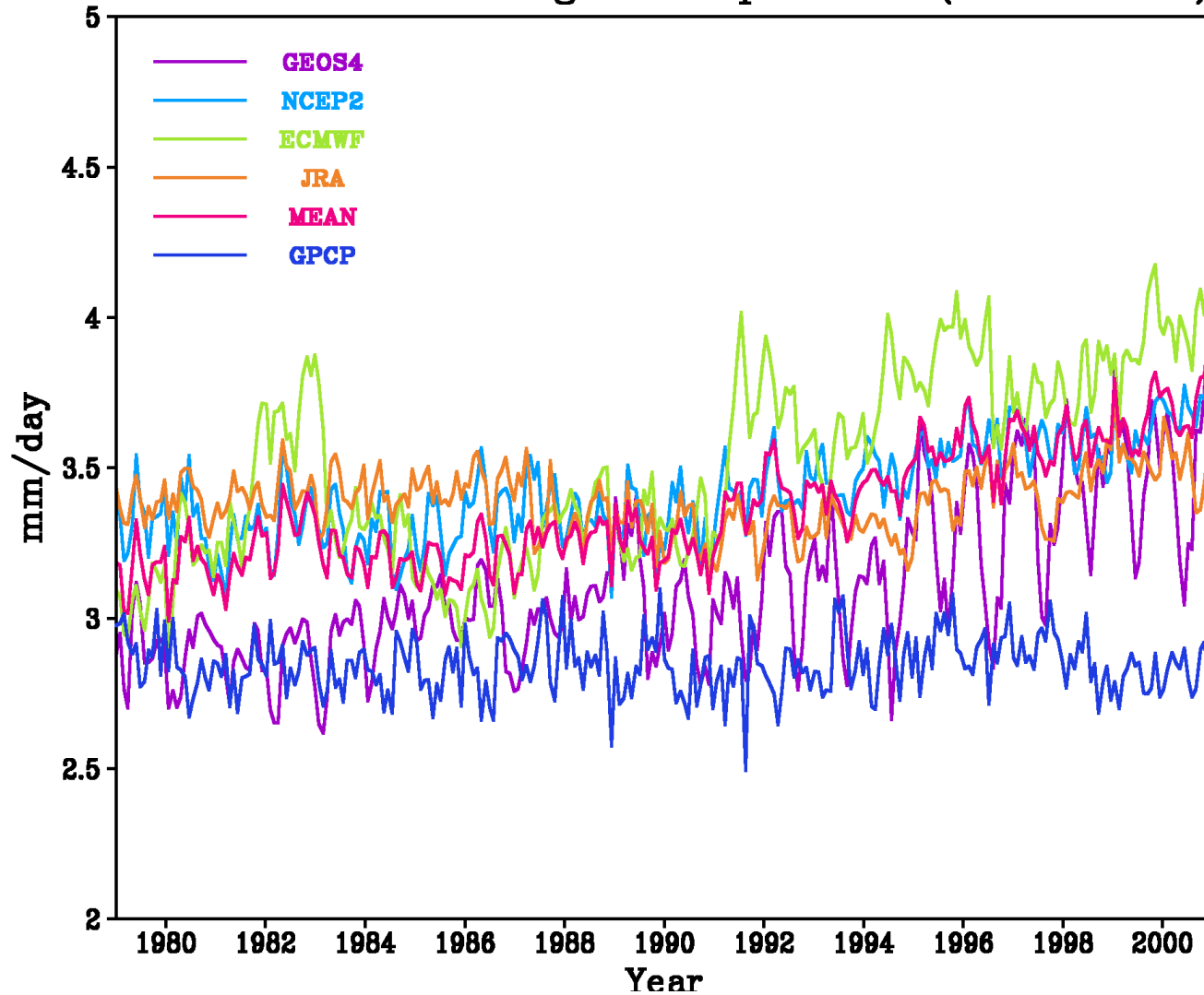


Precipitation  
AUG 2004 EXP(A) – CTL(B)



# Precipitation (Ocean)

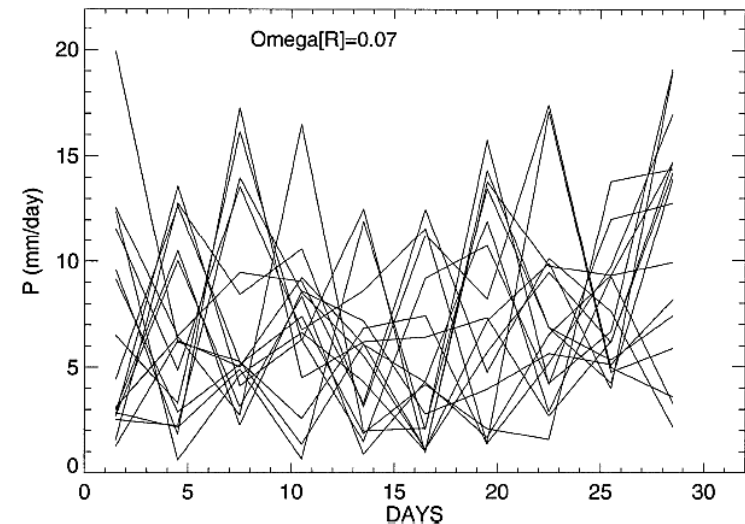
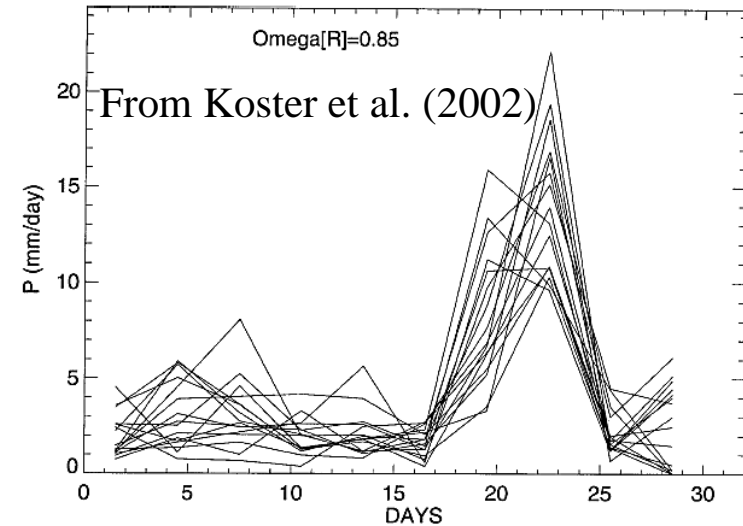
Global Ocean Average Precipitation (1979–2001)



# Omega Calculation: Koster et al. (02)

- Omega is the degree of similarity of the ensemble members
- Hypothesis: Analyses include many of the same observations, so that the degree of similarity may be related to the obs

$$\Omega_P = \frac{N\mathbf{s}_{\hat{P}}^2 - \mathbf{s}_P^2}{(N-1)\mathbf{s}_P^2}$$





# Model Example of Omega

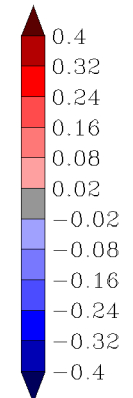
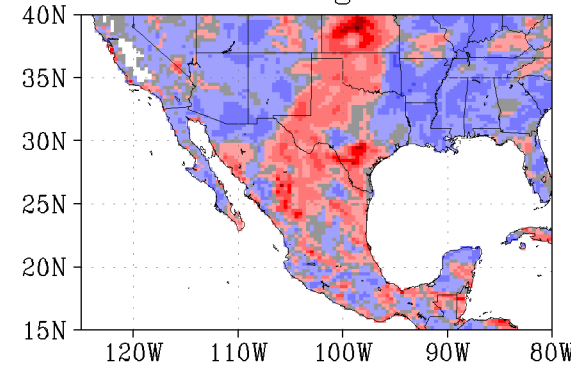
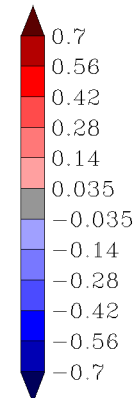
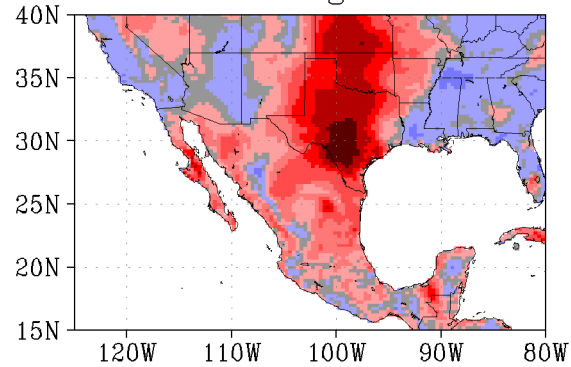
## Height of the LCL

## Precipitation

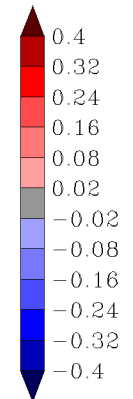
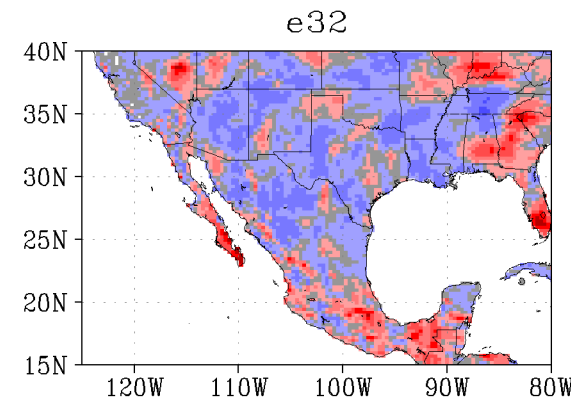
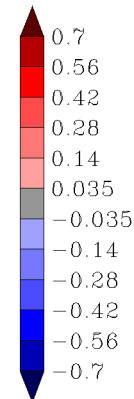
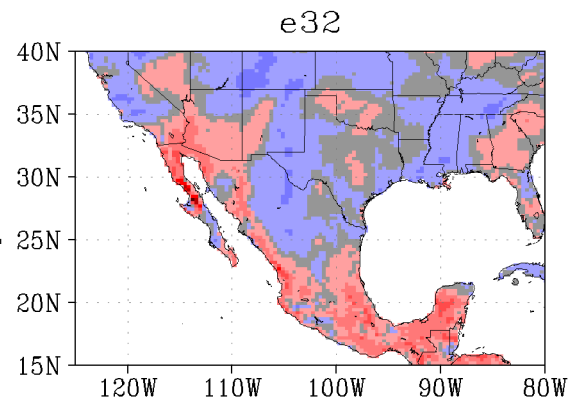
HTLCL(e32) Omega JUL2004  
e32gl

PREACC(e32) Omega JUL2004  
e32gl

Constrained  
Land



Land  
Parameter.





# Next Steps

- Presently downloading the gridded data from MPI Model and Data
- Will make available to Co-Is
- Define an initial case study for study (persistent precipitation, East coast of US 2003 – EOP3)
- How to collaborate closely with the other NWP centers to better understand the intercomparison?