

TROPOSPHERIC MODEL: SUMMARY

- **Papers:**
 - **Summary/documentation**
 - **Need to understand the differences in results with different met. Fields in terms of their characteristics**
 - **Document model performance (Logan)**
 - **NO_y ratios (Chatfield)**
 - **Compare to MOZAIC water (Prather) T-H₂O correlation**
 - **Middle Eastern maximum/South East US maximum**
 - **Need FLUX DIAGNOSTICS**
 - **(Goddard; difficult to obtain exact balance?)**
 - **New lightning parameterization – Assess with Harvard database, SHADOZ, after running second year**

COMBO MODEL (I)

- **Issues:**
 - 4x5 and 2x2.5 simulations exactly the same except for resolution.
 - OH larger, CO smaller than tropospheric model
 - Rerun tropospheric model using O3 stratospheric columns from COMBO?
 - Comparison to OMI/MLS tropospheric column – Concern about lack of validation of OMI/MLS product.
 - Shipping emissions: Measurements have shown that they do NOT produce ozone – Chemistry in plume hard to represent in large-scale model.
 - Doug Davis GRL, ITCZ 2K2
 - Put in lightning parameterization in COMBO – rerun with
 - Lightning parameterization
 - Fix to shipping emission chemistry-test in trop. Model first
 - Agreement with O3 sondes somewhat worse in 2x2.5
 - Prognostic water? (Include Stolarski/Douglass approach currently used in chemistry/climate simulations)

COMBO MODEL (ii)

- **Paper**
 - **Concentrate on UT/LS story, seasonal variability of HCl, O3, N2O...**
- **Future simulations/met. fields**
 - **Analyzed and forecast GEOS-4 met. Fields for 2004-2005 for analysis of AURA data – GOAL TO HAVE SIMULATIONS FOR SEPTEMBER AURA MEETING.**
 - **Update biomass burning emissions for AURA period (Jennifer to ask Prasad)**
 - **Other analyses (ALSO FOR AURA PERIOD?)**
 - **ECMWF for 2004-2005 (Prather) – Need to test regridding from Gaussian to standard TPCORE grid.**
 - **NCEP: Need to use MATCH for deriving cloud fluxes, etc.; no “forecast” mode.-Phil forecasts may be available.**
 - **Bring in current fields from other GCMs: CAM, GISS MODEL E, GFDL.**

Short-lived species

- **Start with tropospheric model**