

# **HARVARD/UW/GSFC CONTRIBUTION TO ARCTAS EXECUTION**

**Daniel J. Jacob (P.I.), Lyatt Jaegle (co-I), Steven Pawson (collaborator)  
with Harvard graduate students Jenny Fisher, Chris Holmes, Justin Parrella**

## **CHEMICAL FORECASTING:**

- **Twice-daily 5-day global GEOS-5 forecasts (0.5°x0.67° horiz. res.) for ozone and CO tracers**
- **Interactive web site with custom maps, vertical profiles, curtain plots along flight tracks and satellite orbit tracks, animations, time series**

## **NEAR-REAL-TIME GEOS-Chem SIMULATION:**

- **Objectives: (1) monitor consistency between observations and models, (2) draw attention to any large discrepancies that may warrant attention in flight planning, (3) enable quick-look analysis of the data after mission completion**
- **NRT simulation will use first-look GEOS-5 assimilated data, standard GEOS-Chem simulation of ozone-NO<sub>x</sub>-VOC-aerosol-Hg chemistry**
- **output will lag observations by 2 days**
- **Results will be compared to observations in the field, posted on web site, submitted to field data archive**

# ISSUES/CONCERNS

- **Need individual groups to develop expertise with Jim Crawford's flight planning tool**
- **Can we all agree to use the same map projections, vertical coordinates? How about 40-90N polar projections, with altitude as vertical coordinate?**
- **Will David Streets' gridded inventory be ready in time for use in forecasting/NRT simulations?**
- **NRT satellite data: make sure all products have a 'field rep'. Will we have NRT CALIPSO aerosol data?**
- **How will we work with the NOAA forecasting team in Fairbanks?**
- **How will we communicate with the planes in flight? In Thule?**