

# microphysics/composition/organics

- topics / tasks
  - microphysics
    - focus on evaluating CN concentrations, CCN & size (examine existing experiments)
    - understand changes in time as emissions change
  - transport
    - provide 3D monthly means for aerosol tracers
    - provide high temp resolution of tracers at specific sites
  - organics
    - clarify definitions
    - provide budget information (primary & secondary)
    - examine the impact of sophistication (17 models)
    - additional submissions possible until end Oct/Nov.

# microphysics/composition

- new science questions (1)
  - understand (regional and temporal) representativeness of in-situ/points (vs. region)
  - assure (self-)consistency of both observations and model output
  - understand sensitivity of simulated output to individual processes
  - explore regional studies (e.g. arctic or tropics & aircraft campaign data in 2006 ) – with hindcast simulations

# microphysics/composition

- new science questions (2)
  - use of microphysical/composition information to calculate refractive indices
  - explore sensitivity to nucleation schemes.
  - test different versions for nucleation & processes (on/off)
  - evaluate mixing states, single-particle mass spec & HTDMA
  - harmonize emissions mass and size distribution

# organics

- new topics await the analyses
  - alternatives to sea-salt based on marine emissions
    - e.g. productivity & wind-speed
  - can we use size resolved information from AMS ?
    - models and AMS are not consistent yet
    - only 4 models have explicit size resolved info.
    - move away from OC as a bulk tracer
    - metric to distinguish size-resolved and bulk models.

# joint papers

- Graham Mann: basic evaluation of CN, CCN, size distribution
- Kostas: total OC paper
- Susanne Bauer and Kim Prather: Mixing state
- Graham Mann: Sensitivity experiments turn off nucleation, etc.
- Ken Carslaw: boundary layer nucleation only
- Declan O'Donnell: trop nucleation only
- Comparing  $\Delta$ CCN from models with, w/out microphysics.
- Harmonized emissions, hygroscopicity