A Seasonal Perspective on Regional Air Quality in Central California—Follow on research

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New Studies

- Computing barriers to modeling larger domains for longer periods of time at reasonable resolution with models that couple met and chemical transport models have largely been removed by cluster and cloud computing.

Recommendation: Model California

- For a season, different seasons, and ultimately a year
- Will enable examining pollutant transport exchange between the North and South and between:
  - California and Nevada
  - California and Mexico
- Will enable use to assess the effect of Pacific coast inflow

Initial Focus: Summer 2010

- Work with CARB and others to develop a gridded inventory for the state for 2010
  - How have emissions changed?
- Develop WRF/CHEM model for summer 2010 for entire state
  - Advantages: a community model with coupled met and chemical transport; plans to add more extensive chemistry, and PNL aerosol “bench.”

Model CA AQ for Summer 2010

- How has air quality changed?
- Compare with AQ for 2000—better or worse??
- In light of new ozone standard—where are there new exceedances?
- How have precursor sensitivities changed?
- Is the clustering different? How have the met regimes changed?

New modeling tools

- Need to upgrade the sensitivity codes to work with a new model, and to expand its usefulness to include more than emissions and chemistry
- Need to develop adjoint capability for the model
- Others as required to answer specific questions

Importance of joint sponsorship

- Enabled us to devote a substantial amount of time to developing the modeling system, and especially its inputs, and this had a very important effect on performance---
- We are especially grateful to our three sponsors for this activity, and would like to build this level o f support for future efforts.