



# Update on Atmospheric Chemistry and Climate (AC&C)



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## Outline:

- Brief description of activities
- Timeline for AC&C
- Expectations/Hopes



# Atmospheric Chemistry and Climate: Timeline



## Summer/Fall, 2007:

- AC&C Activity plans developed
- AC&C liaisons initiate coordination with AeroCom, CCMVal, HTAP

## March 2008: Conference call of AC&C Steering Committee

- Review/discussion of activity plans (for 3 of 4 activities)
- Agreement to arrive at workshop with detailed model run plans & example model run output

## The Path Forward:

### June, 2008: 2<sup>nd</sup> AC&C Workshop, joint w/ HTAP (Washington, D.C.)

- Finalize activity model runs with engagement of all model groups, in close coordination with HTAP “next phase” plans

### Mid-2008 → 2009: Model runs, publications

### Late 2009: Models are “frozen” for next IPCC Assessment (IPCC report now confirmed for 2013)





# AC&C Activities



## Activity 1: 20 yr Hindcast

*Peter Hess, Jennifer Logan, Oliver Wild*

## Activity 2: What controls the vertical distribution of species.

**Step 1: Focus on 5km- $\rightarrow$ tropopause**

*Joyce Penner, Jose Rodriguez, Celine Mari*

## Activity 3: Cloud-chemical interactions

*Thanos Nenes*

## Activity 4: Future Scenarios: Sensitivities & Uncertainties

*Drew Shindell, JF Lamarque, Michael Schulz*





# TropChem ( a brand new activity)

Jean-Francois Lamarque (NCAR), Mark Lawrence (MPI-Mainz)



## GOALS

- Define/organize topics and working groups to address key points of tropospheric chemistry
- Define/organize interesting studies (involving as much observations as possible)
- Define/organize model intercomparison exercises

## STRUCTURE

- will start contacting later this summer/fall the tropospheric chemistry community to define the key working groups and who could lead those efforts
- Will try to emulate the successes of AeroCom and CCMVal

## build on

- *ACCENT*
- *HTAP*



# Trop-Chem Emission efforts



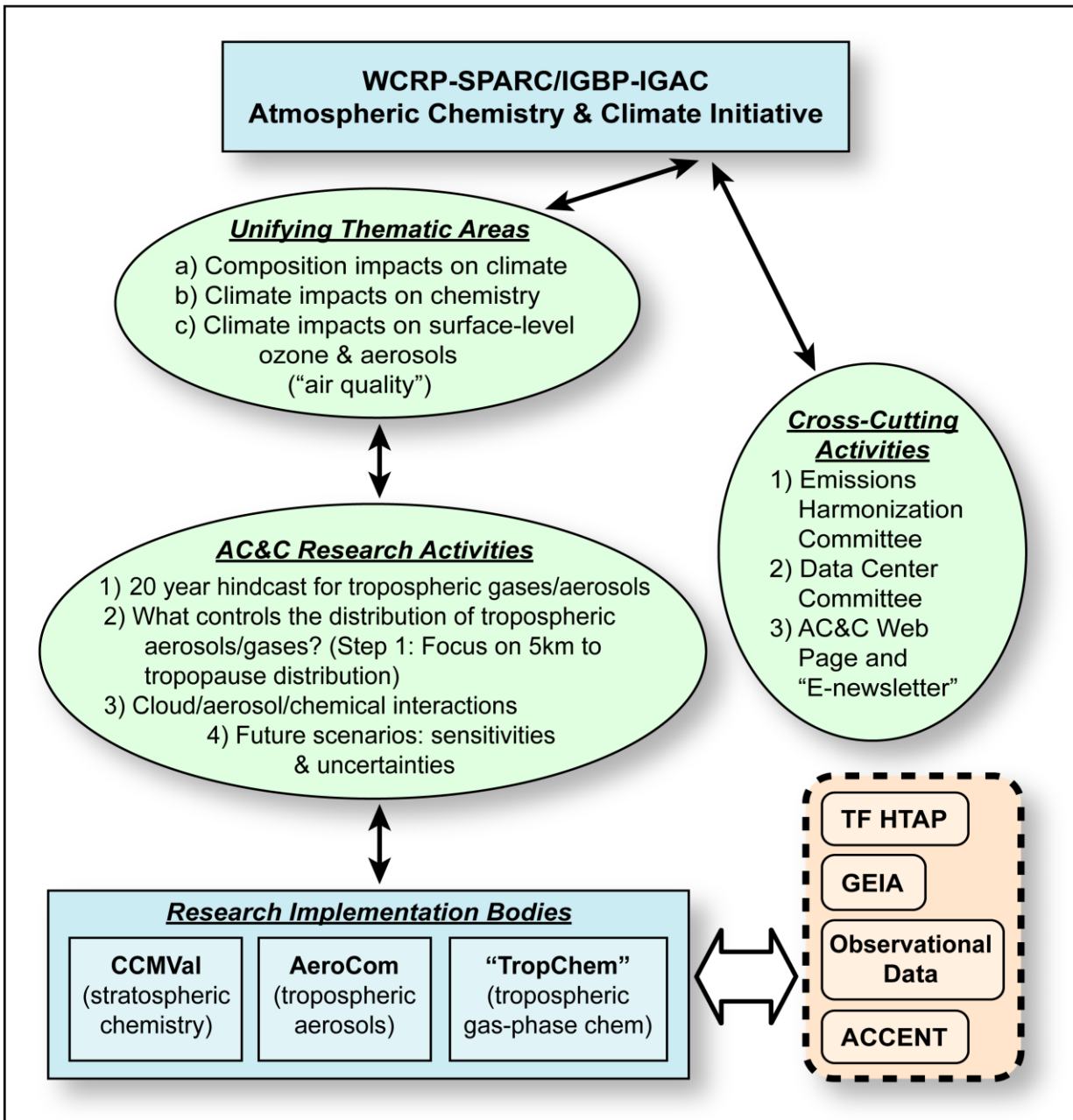
- Assists in improvements to current situation (integrating with GEIA, Edgar, etc)
  - ❖ Spatial Resolution (0.5 degree, 10 yr + seasonal cycle)
  - ❖ Harmonization of historical and future emissions (IAMs)
  - ❖ Anthropogenic + natural
  - ❖ Sectors
  - ❖ Formats, units, etc
- Assessment of utility of various emissions inventories
  - ❖ Uncertainties
  - ❖ Inconsistencies
  - ❖ Strengths/Weaknesses



# Goals for this meeting



- Activities will firm up definition and implementation of project
  - Lead people
  - Experiment/Simulations
  - Data needed
  - Start list on output diagnostics to support evaluation
  - Expectations for progress (e.g. milestones, timeline)
- Resolve our need for a model archive/data center
  - We propose the use of the TFHTAP facility developed by Martin Shultz in Jülich
    - ❖ Data Archive
    - ❖ Wiki
- Opportunity for next meeting
  - IGAC/Annecy --- Sept, 2008
  - ???



# Taxonomy of AC&C

- Utilize complementary expertise within IGAC and SPARC.
- Utilize core projects to anchor the “budding” activity.



## Collaborations and “co-opting”

- Utilize other existing/ongoing activities- AeroCom, CCMVal, HTAP, ACCENT
- Value added to all involved
- Maximize return on effort (small community that is already heavily taxed!)
- Relevant to key issues- e.g. Climate-Air Quality interactions (A “stakeholder?”)