HTAP model (inter) comparisons

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The convention on long-range transport of pollution
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HEMISPHERIC TRANSPORT OF AIR POLLUTION 2007

AIR POLLUTION STUDIES No. 16

Interim report prepared by the Task Force on Hemispheric Transport of Air Pollution acting within the framework of the Convention on Long-range Transboundary Air Pollution

UNIVERSITY OF LEEDS
Multi-model comparisons / evaluations

• Actors: ‘Never work with animals or children’
• Modellers: ‘Never do a model inter-comparison’
• You know the conclusion
• ‘The models differed due to a complex set of processes involving, chemistry, photolysis, aerosols, advection, convection, diffusion, wet deposition, dry deposition, emissions, the stratosphere, the ocean*, ............

* Choose your favourite three processes
4 Sets of model comparisons

1. ‘Passive’ tracers
   • Oliver Wild
2. Annual full chemistry
   • Arlene Fiore
3. Campaign full chemistry
   • ?
4. Future climates
4 Sets of model comparisons

1. ‘Passive’ tracers
   - Oliver Wild

2. Annual full chemistry
   - Arlene Fiore

3. Campaign full chemistry
   - Mat Evans + Isabelle Bey

4. Future climates
Current models

- MOZART
- TOMCAT
- MOCAGE
- MOZCHECH x 2
- GEOS-Chem
- TM5
- CAMCHEM (?)
Plans

- Standard comparisons....
Plans

• Standard comparisons.....
Plans

- Other approaches – more fun .....  
  - Cluster analysis  
  - Principal components  

- Some of these approaches have been used to analyse the ITOP observations.
- Now apply to the models
Final thoughts

• We will make the along flight model and measurement files public
• Hopefully find a way of ‘usefully’ comparing model capabilities to simulate long range transport of pollution
• Should inform the HTAP process