

Model configurations for AR5 simulations

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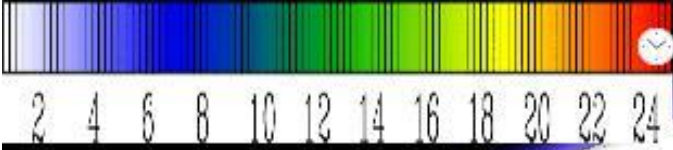
CCSM meeting, June 18, 2008

Required simulations

1. CAM/CLM 1850-2300 simulations with fixed SSTs: these will be used to provide chemical field distributions to climate model
2. CCSM 1980-2030 high-resolution simulations: possibility of at least one ensemble member with interactive chemistry

Proposed configuration: case #1

- Stratosphere + intermediate troposphere chemical mechanism: approx. 80 species
- Bulk aerosols with SOA
- Continuous simulation 1850-2300
- Resolution of $1.9^{\circ} \times 2.5^{\circ}$
- Interactive biogenic emissions
- Interactive fire emissions



Mar 16, 2006

11am

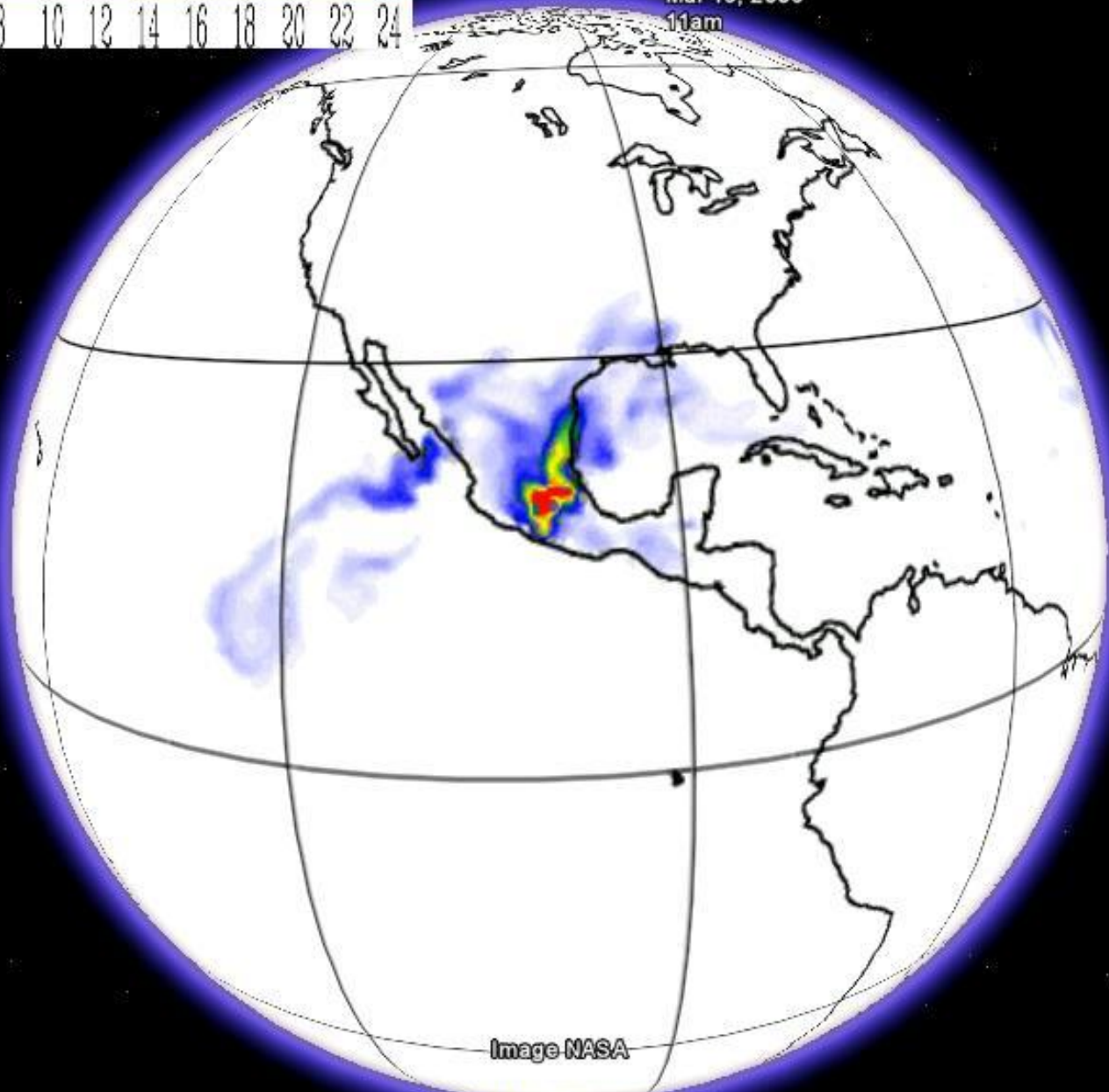


Image NASA

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16°01'44.56" N 99°04'42.20" W

Eye alt 6056.88 mi

Next steps

- Test interactive chemistry with modal aerosols
- Reduce the cost of chemistry by removing advection of very short-lived tracers
- Test the possibility of doing chemistry every other timestep (preliminary analysis indicates this is a viable option that would lead to a 10-20% boost in performance)