

Online Multi-Year Simulations of the Global Aerosol Distribution in the NASA GEOS-4 Model

Peter Colarco

Atmospheric Chemistry and Dynamics Branch, Code 613.3

Arlindo da Silva

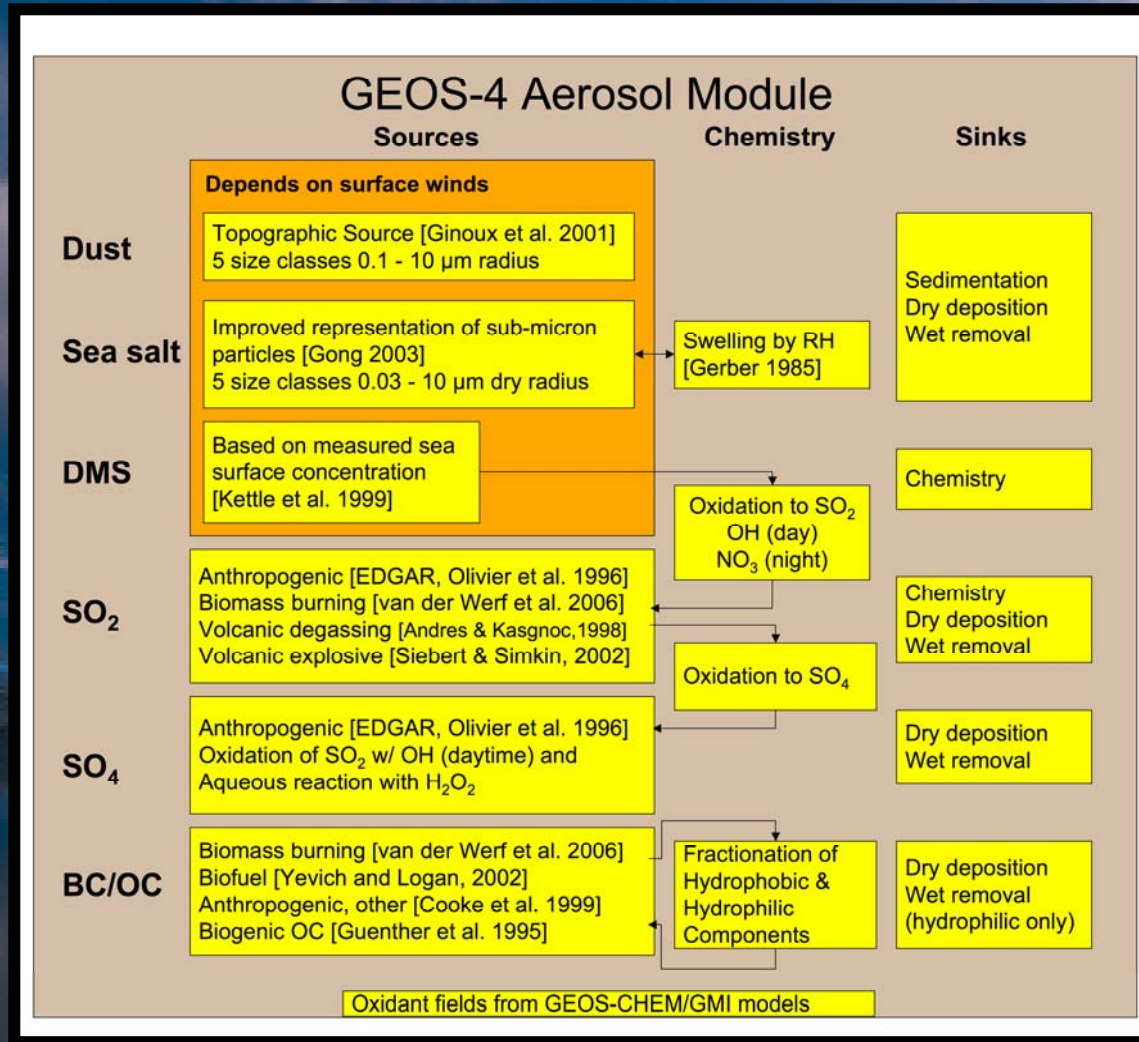
Global Modeling and Assimilation Office

with contributions from:

Mian Chin, Thomas Diehl, Ravi Govindaraju



Implemented version of offline GOCART model in online GEOS-4 model

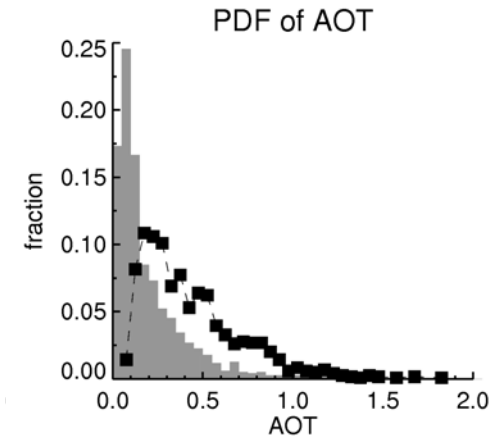
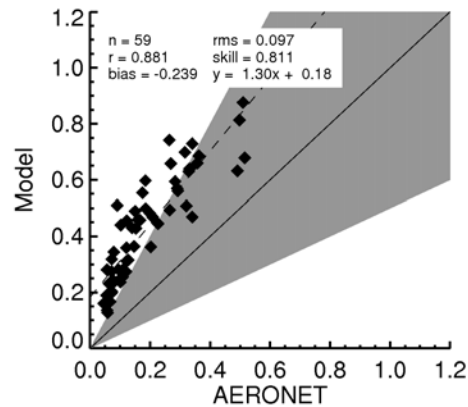
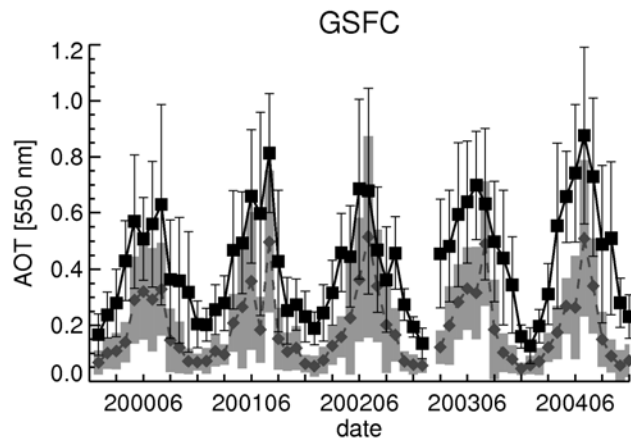


The GOCART Aerosol Grid Component is based on Chin et al. 2002.
Now also including volcanic SO_2 from Harvard-Smithsonian Observatory (courtesy Thomas Diehl).

Model run in *replay mode* for years 2000 - 2004

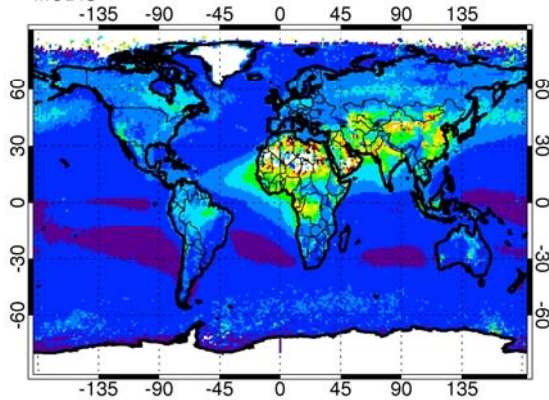
- Replay: initialize with analyses, free-running GCM for 6 hours, reset to analyses, repeat
- $1^\circ \times 1.25^\circ$ horizontal resolution
- 32 vertical levels extending to 85 km (thinned in stratosphere)

Compared to AERONET

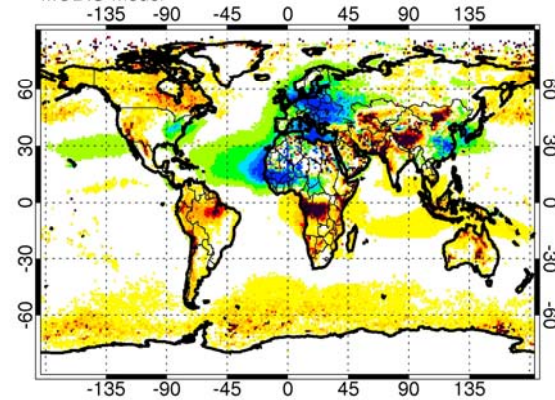


Compared to MODIS AOT: Average of 5 years

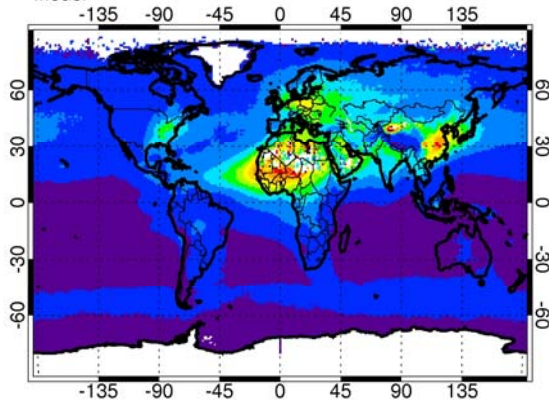
Global
MODIS



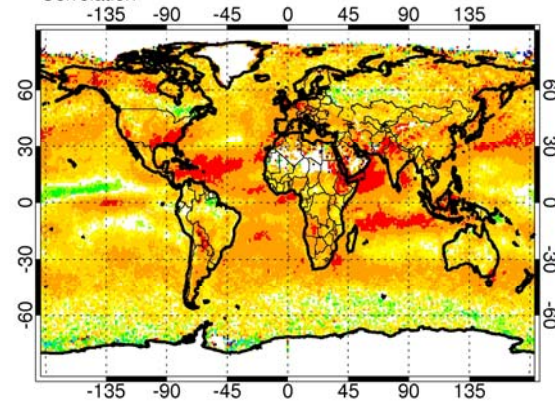
MODIS-Model



Model



Correlation



Please See Poster!

And also:

http://hyperion.gsfc.nasa.gov/People/Colarco/Mission_Support

for our near realtime forecasts!

Have a nice day!

