



# Modeling the stratospheric aerosol with a chemistry climate model: the example of Mt. Pinatubo



Valentina Aquila<sup>1</sup>, Luke D. Oman<sup>1</sup>, Richard S. Stolarski<sup>1,2</sup>, Peter R. Colarco<sup>1</sup>, Anne R. Douglass<sup>1</sup>, Paul A. Newman<sup>1</sup>

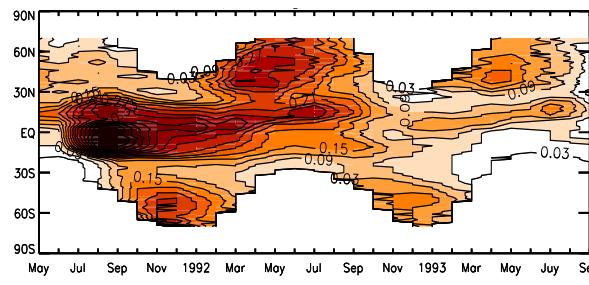
<sup>1</sup>NASA Goddard Space Flight Center, Greenbelt, MD, USA

<sup>2</sup>Department of Earth and Planetary Science, John Hopkins University, MD, USA

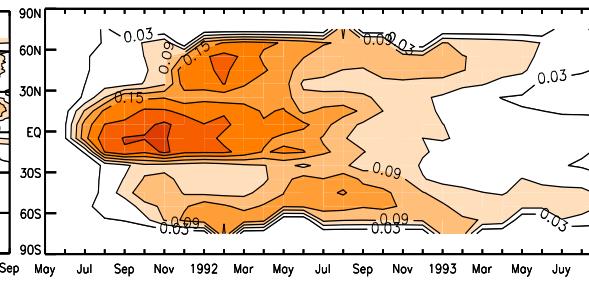
contact: [valentina.aquila@nasa.gov](mailto:valentina.aquila@nasa.gov)

Aerosol  
visible  
optical  
thickness

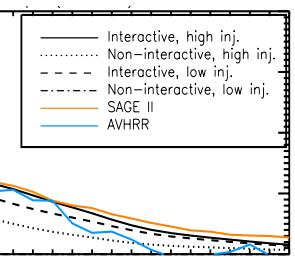
AVHRR



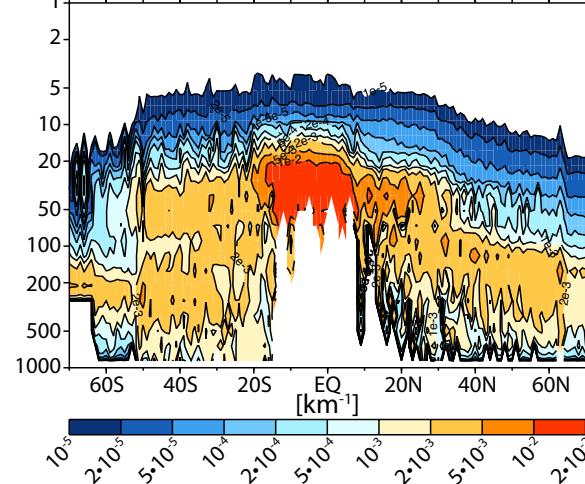
SAGE II



Mean 30°S-30°N

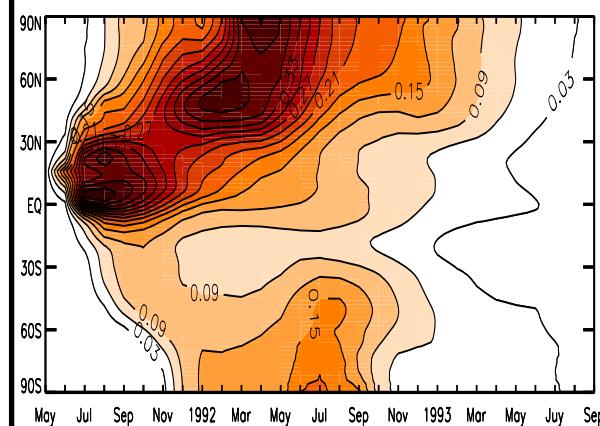


SAGE II  
extinction  
coefficient

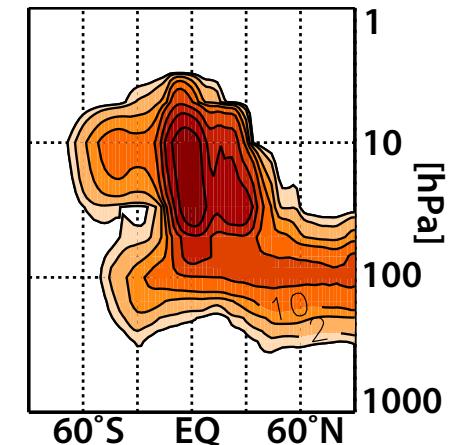


Model simulations

AOT



SO<sub>4</sub> [ppbv]





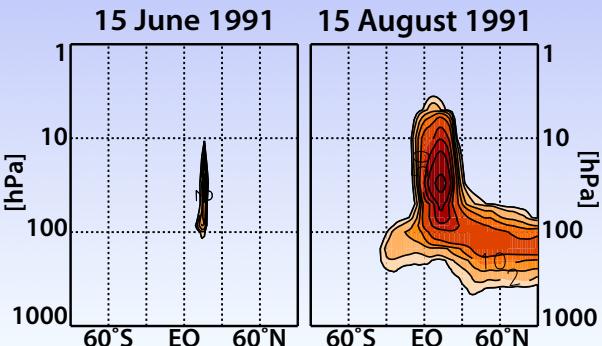
# Modeling the stratospheric aerosol with a chemistry climate model: the example of Mt. Pinatubo



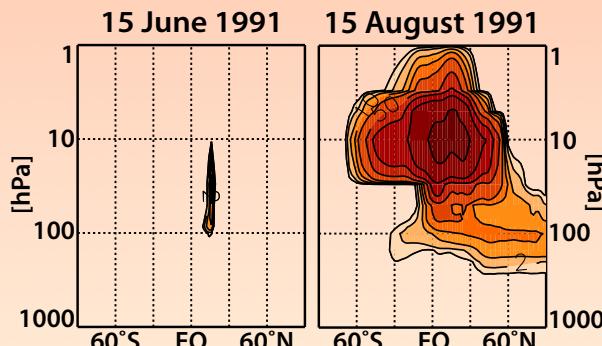
Valentina Aquila<sup>1</sup>, Luke D. Oman<sup>1</sup>, Richard S. Stolarski<sup>1,2</sup>, Peter R. Colarco<sup>1</sup>, Anne R. Douglass<sup>1</sup>, Paul A. Newman<sup>1</sup>

## Simulated SO<sub>4</sub> mixing ratio - zonal mean

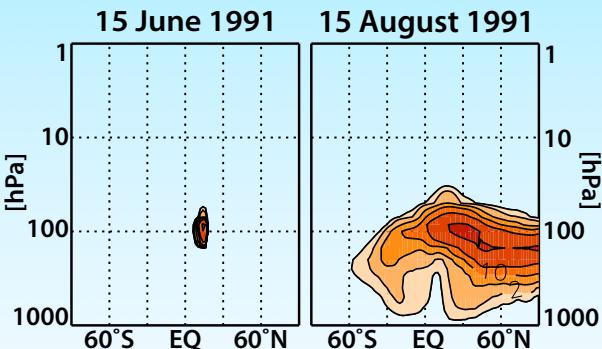
### Non interactive - high injection



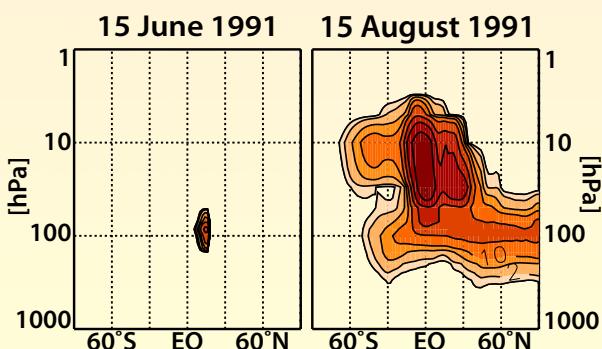
### Interactive - high injection



### Non interactive - low injection



### Interactive - low injection



[ppbv]

