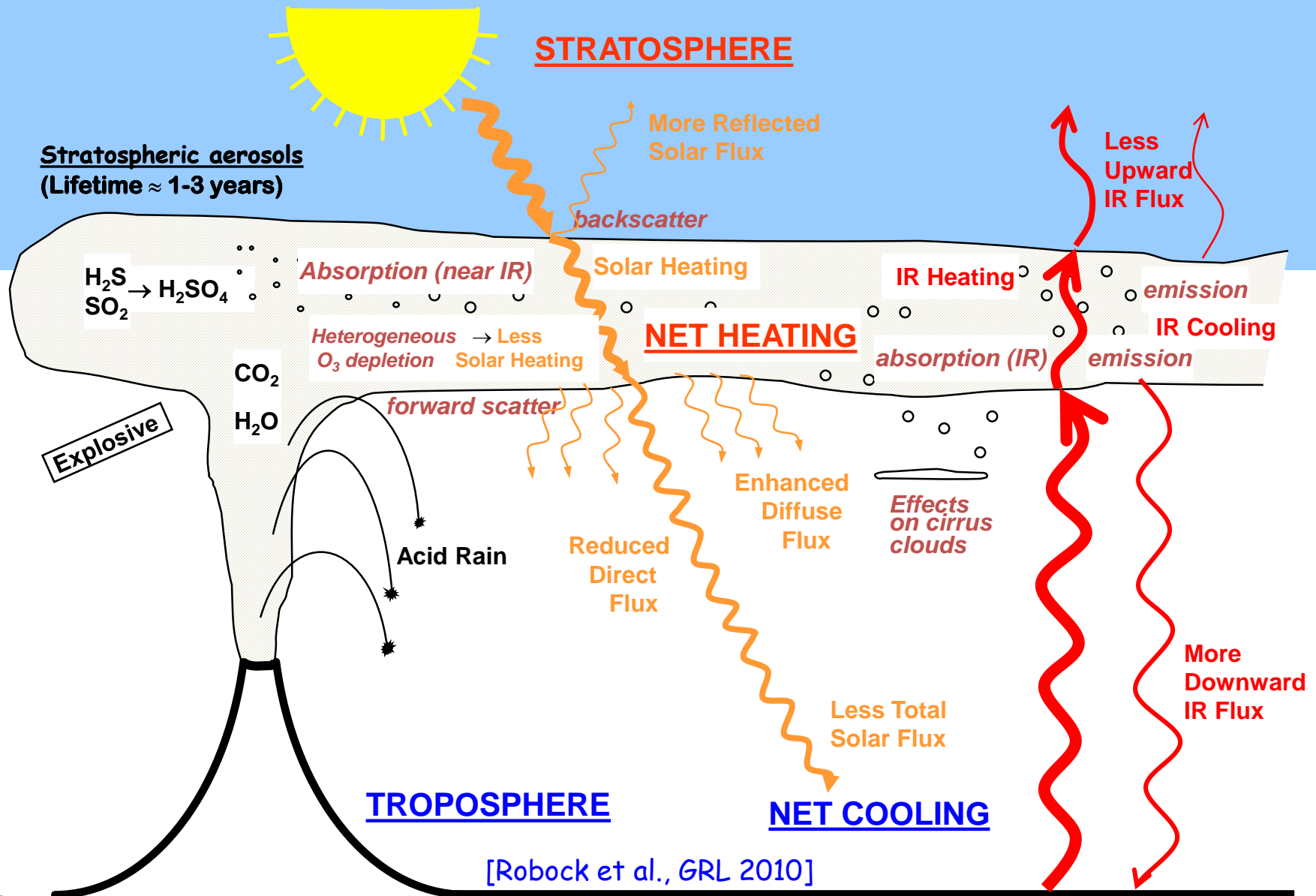


# Reconciling the BDC response in climate models to volcanic forcings with reanalyses

MOHAMADOU DIALLO<sup>1</sup> ET AL.

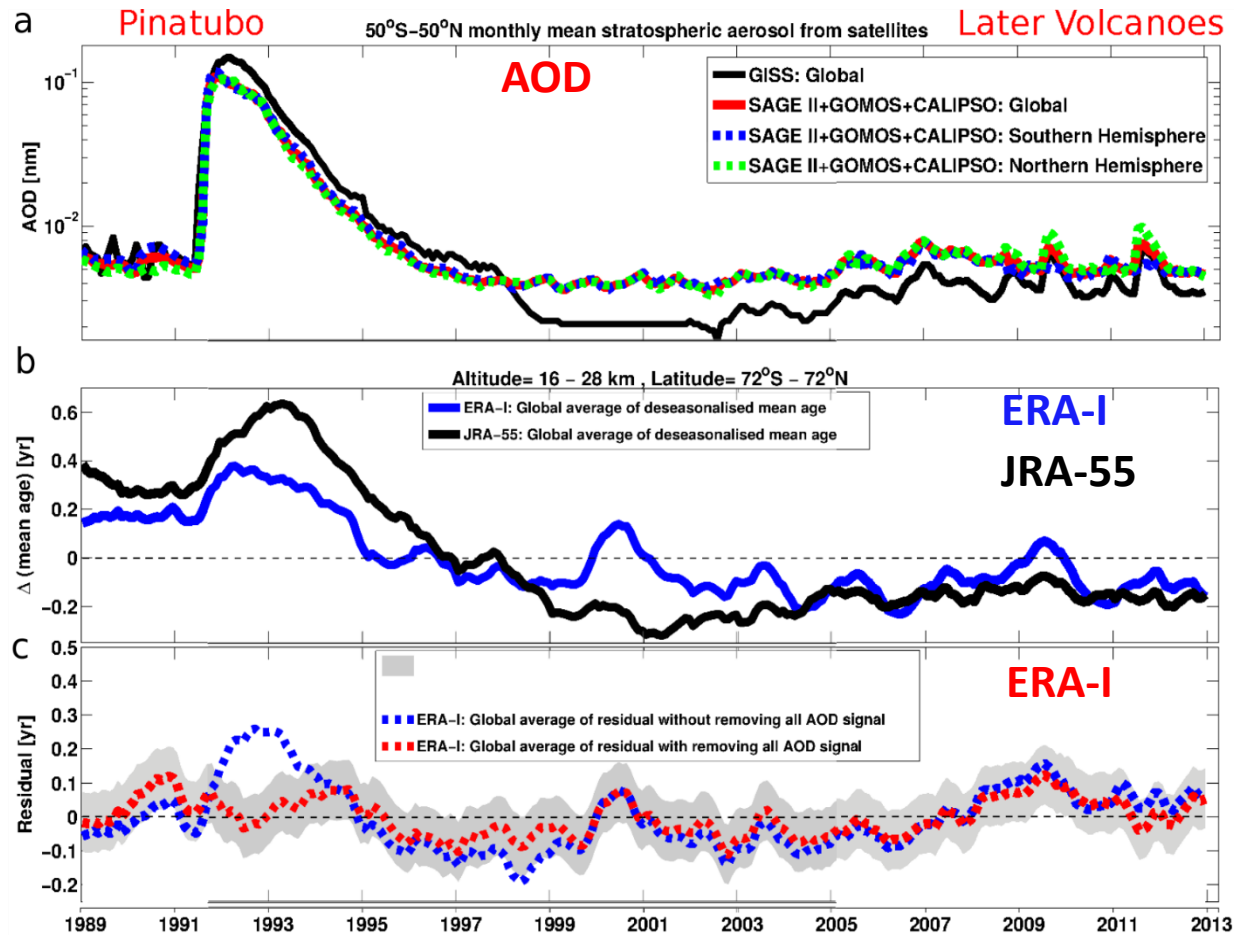
<sup>1</sup>Institute of Energy and Climate Research  
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# Radiative effect of Junge Layer



# Modulations of the BDC by volcanic aerosols

- ❖ **Pinatubo and Post-2008** eruptions significantly impacted the BDC by increasing the mean age in the **lower stratosphere**.
- ❖ In the mid and upper stratosphere, reanalyses and climate models ([Garcia et al., 2011](#); [Pitari et al., 2016](#); [Muthers et al., 2016](#); [Garfinkel et al., 2017](#)) **disagree** in the **deep/strength** of the response to volcanic effects.

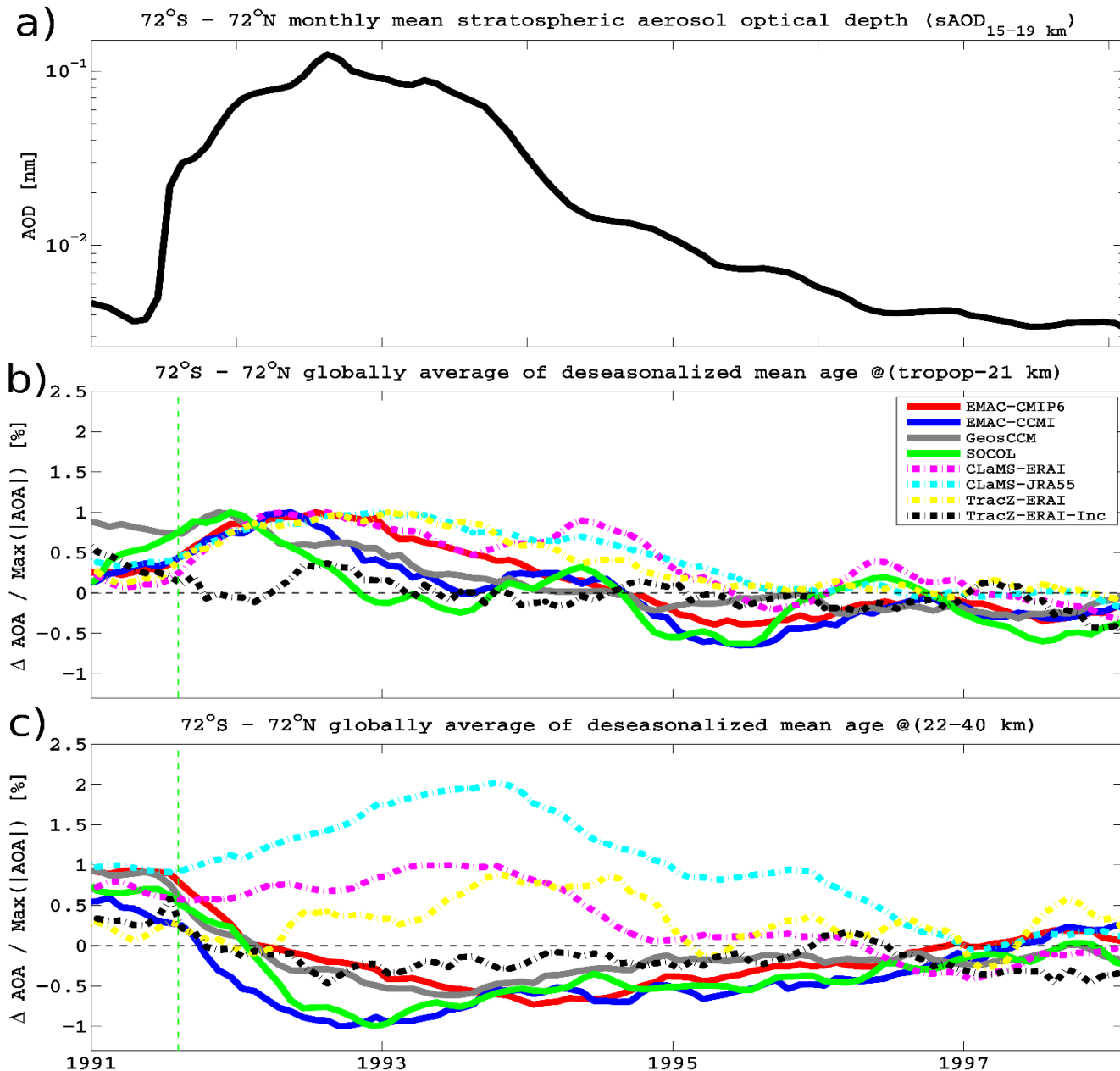


[Diallo et al., GRL 2017]

# Results: Reanalysis with assim. inc. **versus** CCMs

❖ By taking into account the **assimilation incrementation**, which contained the missing secondary aerosol effect, **we obtained a closer response in the mid and upper stratosphere** between reanalyses and climate models.

❖ Discrepancies are still present in the **deep/strength BDC** response.



*Thank you  
for listening!*



*Any questions*

