

Introduction

- The southern African region produces about 1/3 of global biomass burning (BB) emissions.
<https://agupubs.onlinelibrary.wiley.com/doi/full/10.1002/2016JD026421>
- It is critical for global models — such as GEOS — to accurately predict the aerosol loading over this key area, which ultimately impacts the regional energy balance.

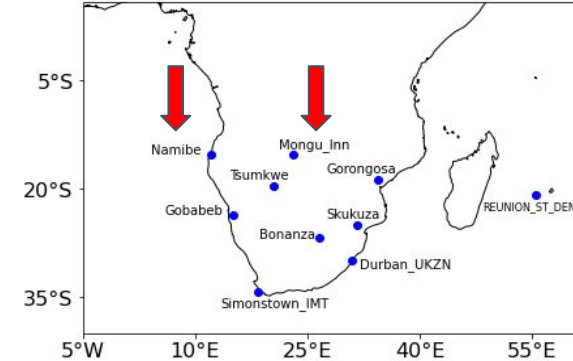
Methods & Approach

- AERONET: a network of ground-based sun photometers that measure atmospheric aerosol properties
- Goddard Earth Observing System (GEOS): Earth system model with online GOCART aerosol module that tracks size-resolved dust, sea salt, and nitrate, and bulk sulfate and carbonaceous aerosols, all as an external mixture.

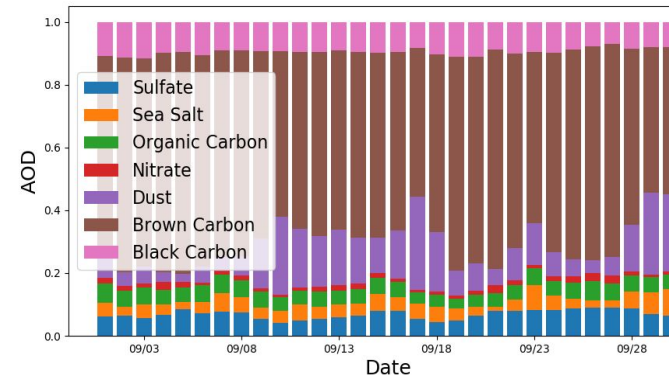
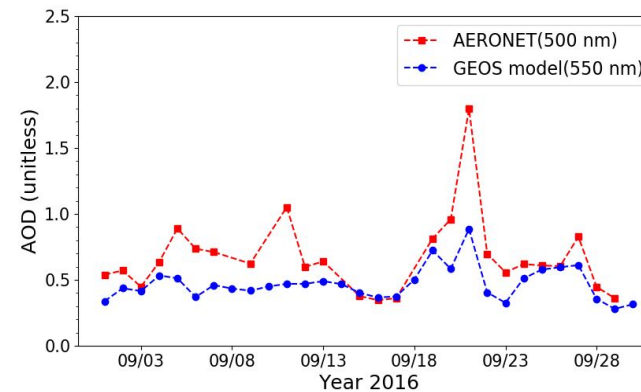
Results & Discussion

- GEOS model closely matches variability of the AERONET data.
- Both sites are dominated by brown carbon, but Namibe has a significant dust contribution.

AERONET stations Southern Africa



NAMIBE



MONGU_INN

