Observations and Modelling in AeroCom

Michael Schulz,
Norwegian Meteorological Institute
17th AeroCom workshop
College Park, 15-19 October 2018

AeroCom workshop program outline

Special thanks

Stefan Kinne, Mian Chin

Shoba Kondragunta, Lorraine Remer

- **Monday** sessions: Indirect effect, poster introductions 1 , Observational constraints, Discussion on forcing uncertainty

- **Tusday**: AeroCom modeling experiments, *AeroCom experiment discussion* BC modeling, Dust modeling, poster viewing; *Dinner College Park*

- **Wednesday**: aerosol remote sensing, aerosol radiative effects, *Discussion & Excursion to Washington*

- **Thursday**: AeroCom wrap up (1h); Introduction to Aerosat, data and modelling, Poster viewing II , Aerosat starts

Key AeroCom topics

◆ *improved **evaluation strategies** for AeroCom models*

◆ *recommendations for **best aerosol modeling practices***

◆ ***constraints** for aerosol radiative effects*

◆ *new **aerosol forcing** estimate*

◆ ***reference fields** from global modeling*

◆ *lessons learned from past/**ongoing model experiments***

◆ ***experiment coordination***

State of AeroCom infrastructure

- AeroCom user server: from 2017::200 to now 240 users, 60 used it in the last 12 months

- AeroCom database, structure per phase and project
  - *15* TB AeroCom phases I – II – III
  - *1* TB AeroCom Indirect I - II – III
  - 9 TB HTAP phase I - II
  - 0.5 TB Satellite Data + cci-Aerosol
  - 0.2 ACCMIP / 5 ECMWF / 1 ECLIPSE /

- **Backup, parallel postprocessing, scalable data storage, user accounts, questions, organisation, quality checks...**

What we are occupied with at the Norwegian Meteorological Institute...

- Project proposal writing/work:
    NorESM infrastructure & research, ACTRIS, CAMS, Aerosol-cci, Crescendo,
- NorESM2 for CMIP6
- Rewrite of aerocom tools idl => python (pyaerocom)
    github public, will be soon announced
- Testing of website with more interactivity
    based on json files for time series comparison
- Performance matrix work (presentation tuesday)
- Publications on trends (SO4, Aerosol-cci ...)
- Co-organisation AerChemMIP (data request, workshop)
- Maintenance Aerocom database ...

with Anna Benedictow, Jan Griesfeller, Jonas Gliss, Augustin Mortier

Meteorologisk institutt

New interactive trend interface
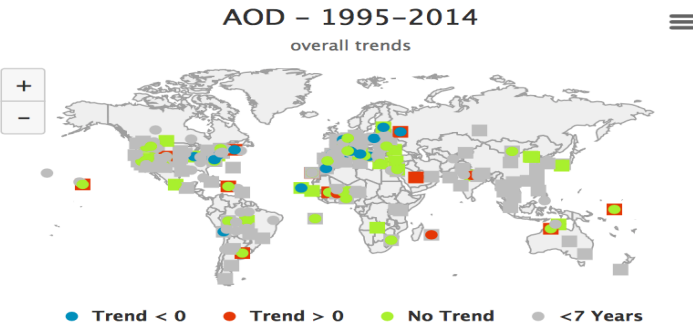# for historical AeroCom/AerChemMIP
data comparison/evaluation

http://aerocom.met.no/trends/
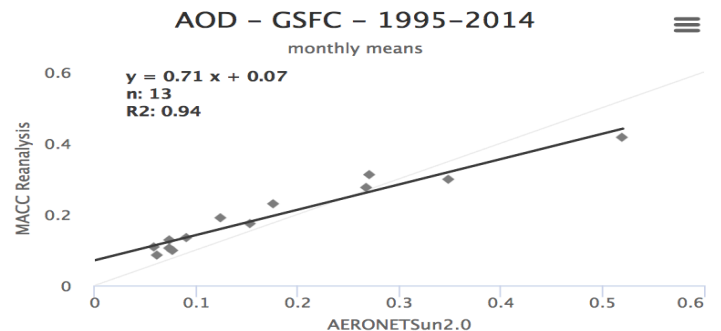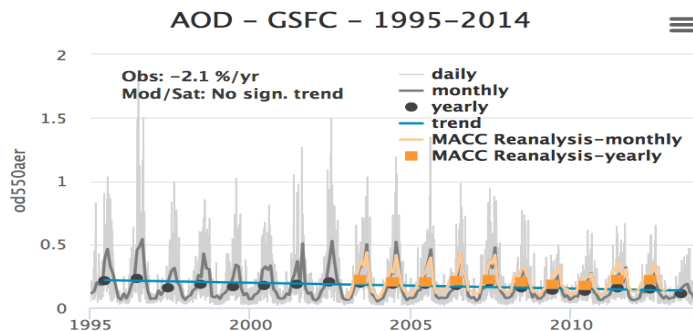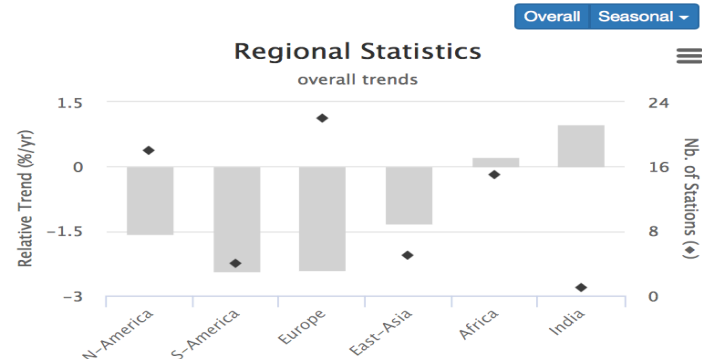
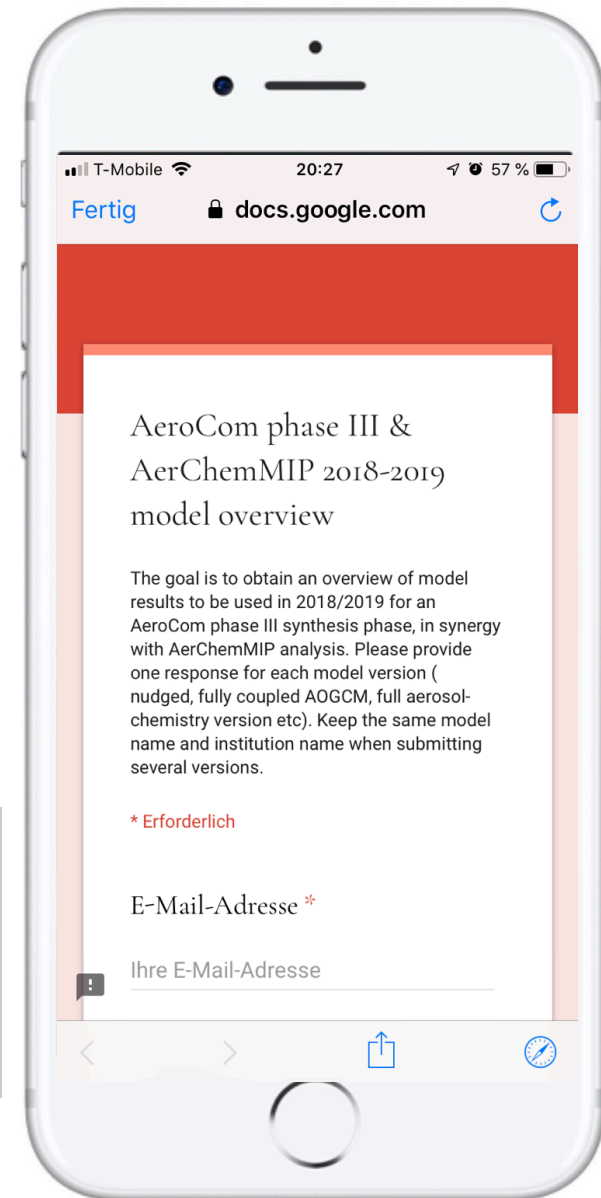Multiple optical parameter evaluation with new pyaerocom tool
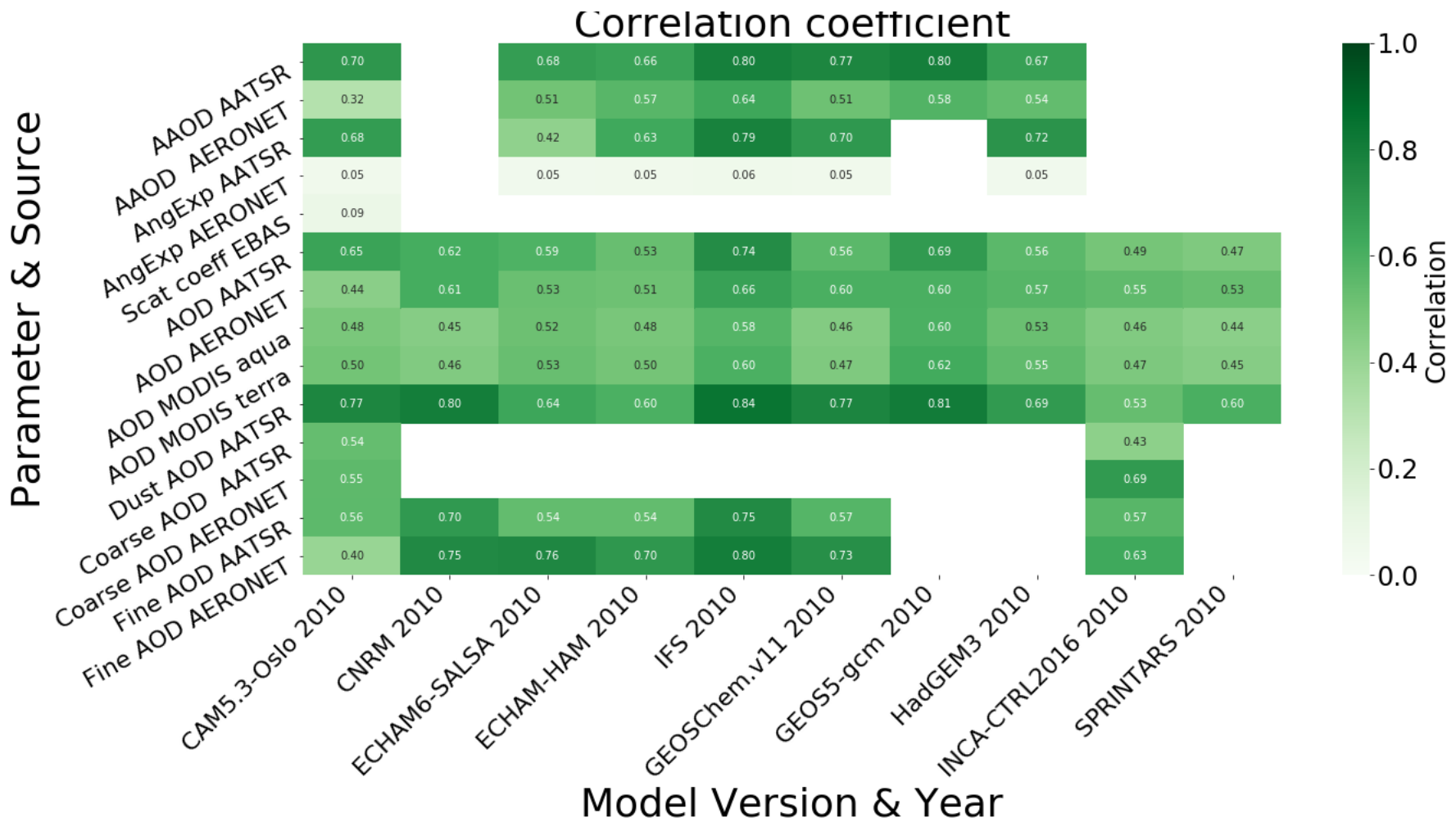
Questionary send out *yesterday* on model contributions to AeroCom/AerChemMIP
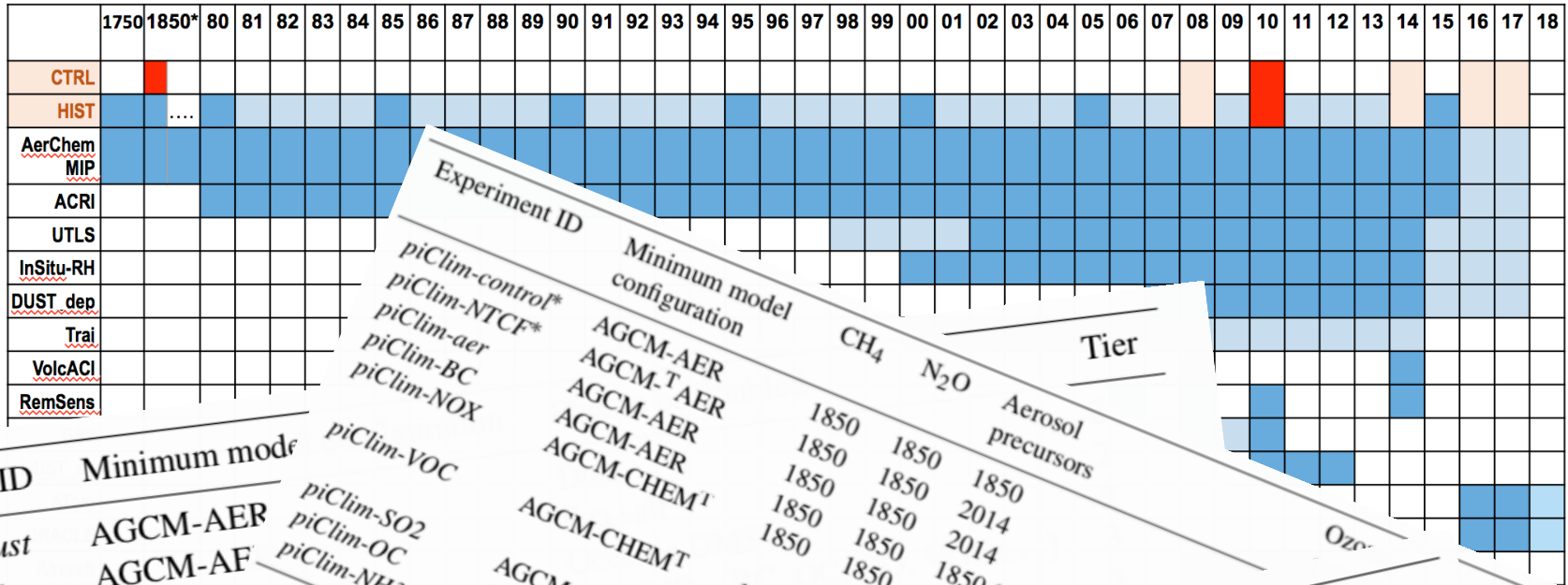
AeroCom phase III & AerChemMIP
2018-2019 model overview

4 sections to answer:

◆ Model characterisation

◆ AeroCom control, historical and DECK

◆ AeroCom phase III experiments

◆ ERF, forcing and feedback experiments

Please respond today for your model, latest wednesday afternoon, edit later for perfection

Meteorologisk
institutt

Questionary send out *yesterday* on model contributions to AeroCom/AerChemMIP

For discussion during AeroCom

- Experiment submission coordination

- June: Next AerChemMIP workshop US/Germany?

- Sep-Nov 2019 AeroCom workshop in Barcelona

- Deadline Dec 2019 for IPCC AR6 paper submissions
  what shall AeroCom "contribute"?

- More efficient AeroCom work split / cooperation ?

Meteorologisk
institutt

More efficient AeroCom ?

- => AeroCom dugnad ? Split of tasks ?
  Use of modern inter-agent tools?
- website
- database & quality checks
- publications & data policy
- documentation of models
- experiment coordination
- science plan
- +++???

=> volunteers, ideas ??

Meteorologisk
institutt

Thanks for the attention

wishing all a happy successful workshop