

An aerial photograph of a coastline at sunset. The sun is low on the horizon, casting a warm orange glow over the water and land. The sky is filled with dark, dramatic clouds. In the foreground, the white wing and tail of an airplane are visible, extending from the right side of the frame towards the center. The water below is dark, with some lighter patches of land or ice.

Observations and Modelling in AeroCom

**Michael Schulz,
Norwegian Meteorological Institute**
18th AeroCom workshop
Barcelona, 23-28 September 2019

AeroCom workshop program outline

Special thanks

Carlos Pérez Garcia-Pando, Alexis Chantasack , Stefan Kinne

- **Monday** sessions: AeroCom experiments forcing and optics, Poster intros
- **Tuesday**: Further experiment updates, poster viewing;
bus excursion to Fabra Observatory – walk back to town
- **Wednesday**: new experiments, aerosol-cloud interactions,
- **Thursday**: New datasets for constraining aerosol understanding, requirements to new observing systems, future discussion,
conference dinner
- **Friday/Saturday**: Aerosol



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***



AeroCom DUGNAD 2019



- *Last workshop College Park presentations on web 😊*
- *=> new workshop planned with BSC*

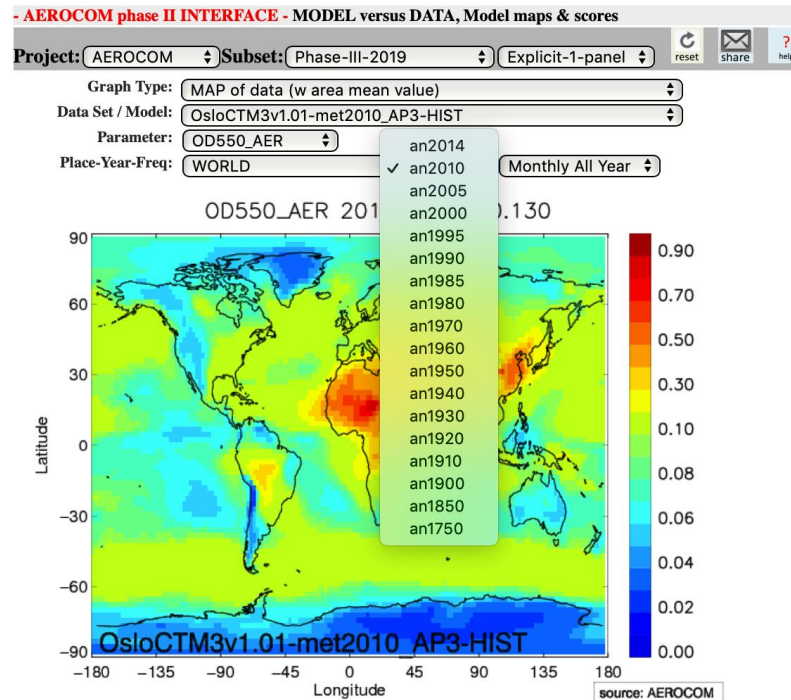
- *13 telecons since last AeroCom workshop /
with Mian, Stefan, Kostas, Bjørn, Gunnar, Michael*
- *Minutes send around to experiment/analysis responsables*

- *Harmonised AeroCom experiment descriptions on wiki*
- *New harmonised diagnostics sheet across experiments*
- *Reminders, quicklooks, approaching CMIP6 deadline
produced a more coherent submission of new data in 2019*





- Database at the Norwegian Meteorological Institute (MetNo) with attached linux user server
- now 250 users with account
- 45 TB, with 2 security copies
- email lists *aerocom-modeller: 233*
aerocomc: 429
aerchemmip: 93
- Workup at MetNo by *pyaerocom* python tool (*githuk*)
- Old Quicklook maintained
- Two new web interfaces for evaluation and trends (see presentations *Gliss and Mortier*)



https://aerocom.met.no/cgi-bin/surfobs_annualrs.pl



WIKI AeroCom phase III experiment section <https://wiki.met.no/aerocom/>

◆ AeroCom phase III experiments

- ◆ Common requirement: Harmonized anthropogenic, biomass burning, and volcanic emission data sets
- ◆ Common requirement: Unified transport and deposition tracers
- ◆ Common AeroCom phase III Diagnostics Request 2019

- ◆ AeroCom Control EXPERIMENT 2019
- ◆ Aerosol absorption analysis (experiment)
- ◆ TOA flux assessment using CERES
- ◆ Remote Sensing evaluation for AeroCom Control 2016
- ◆ In-situ Measurement Comparison (Optical Properties)
- ◆ Anthropogenic Dust experiment
- ◆ Historical experiment
- ◆ Trans-Atlantic Dust Deposition (TADD) analysis
- ◆ UTLS aerosol experiments
- ◆ Atmospheric Composition and Asian Monsoon (ACAM) analysis
- ◆ Aerosol-Cloud Radiation Interaction (ACRI) experiments
- ◆ Baseline Aircraft experiment
- ◆ ATom experiment
- ◆ Volcanic SO₂ experiment (VolcAerosols)
- ◆ Aerosol GCM Trajectory Experiment (GCMTraj)
- ◆ Multi-model PPE – Cloud experiment
- ◆ Multi-model PPE – BC experiment
- ◆ Biomass burning emission injection height experiment (BBEIH)
- ◆ In-situ Particle Number Size Distribution (PNSD) Measurement Comparison

◆ Finished phase III experiments

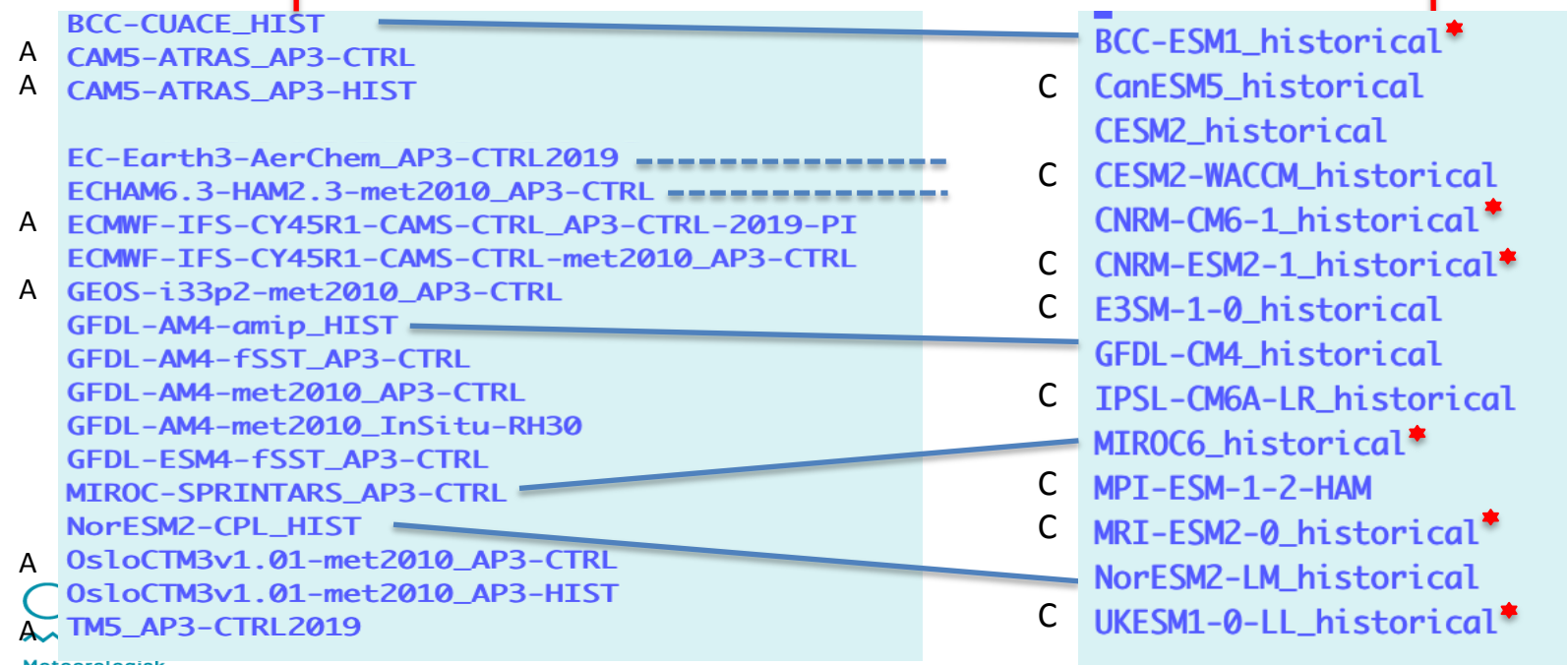
- ◆ AeroCom Control EXPERIMENT 2016
- ◆ AeroCom Control 2015
- ◆ Nitrate comparison
- ◆ Aerosol Lifetime experiments, Fukushima tracers
- ◆ Biomass Burning emissions experiments (2014-2019)
- ◆ HTAP 2 experiments

to be finished in 2019



AeroCom Database as of September 21 2019

ACCMIP	AEROCOM-PHASE-III	AEROCOM-PHASE-II-IND3	AMAP	CMIP6	HTAP-PHASE-I
AEROCOM_EMISSIONS	AEROCOM-PHASE-III-2019	AEROCOM-PHASE-III-Trend	BACCHUS	ECLIPSE	HTAP-PHASE-II
AEROCOM-PHASE-I	AEROCOM-PHASE-III-CTRL2018	AEROCOM-PHASE-I-IND	C3S-Aerosol	ECMWF	SATELLITE-DATA
AEROCOM-PHASE-II	AEROCOM-PHASE-II-IND2	AEROCOM-PHASE-II-PRESCRIBED-2013	CCI-Aerosol	EURODELTA	



**Thanks for the attention
wishing all a happy successful workshop**

